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ABSTRACT

The Title IV Quality Control Project is an evaluation of quality in the United States Department of Education's major student aid programs, including the Pell Grant program, the Campus-Based programs (consisting of the Supplemental Educational Opportunity Grant, National Direct Student Loans/Perkins Loans, and College Work-Study programs), and the Guaranteed Student Loan (GSL) program. This volume of the study report presents the results of analysis of the level and frequency of error in these programs, both overall and for each individual program. Analysis produced program-wide estimates of error, apportioned the error to its sources (students and institutions), and traced the error to the student application or institutional items that caused the error. The study also focused on the effectiveness of two key efforts to improve quality in the programs: (1) mandated validation in the Pell program; and (2) optional institutional validation activities in the Pell, Campus-Based, and to a limited degree, GSL programs, as well as voluntary institutional quality or internal control procedures. Almost 100 tables and eight exhibits illustrate the study findings. The appendixes are bound separately. Appendix A describes the Title IV student aid programs and outlines the delivery system. Appendix B deals with population characteristics, emphasizing distribution of various program funds by income level of student's family. Appendix C focuses on marginal errors from both institutional and student sources within each program, while Appendix D analyzes characteristics tested for association with error. Appendix E comprises the major portion of the document and contains 85 tables, both program-specific (Pell Grant, Campus-Based, and GSL) and miscellaneous. The tables cover cost of college attendance, program disbursements, student characteristics, various types of errors, and estimated joint program benefits. (JDD)

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TITLE IV QUALITY CONTROL PROJECT

CONTRACT NO: 300-84-0020

STAGE TWO
FINAL REPORT
VOLUME 1
FINDINGS

JUNE 1987

Advanced Technology

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TITLE IV QUALITY CONTROL STUDY

STAGE TWO

FINAL REPORT
VOLUME I
FINDINGS

Submitted to

Division of Quality Assurance
Debt Collection and Management Assistance Service
Department of Education

JUNE 1987

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SUMMARY

Stage Two of the Title IV Quality Control Project is the first comprehensive evaluation of quality in the Department of Education's (ED) major student aid programs. As such, the purpose of the study is to identify, measure, and analyze error during the 1985-86 academic year in each of the five major Title IV programs, including the Pell Grant program, the Campus-Based programs (consisting of the Supplemental Educational Opportunity Grant, National Direct Student Loan - renamed Perkins Loans by the reauthorization of the Higher Education Act - and College Work-Study programs) and the Guaranteed Student Loan (GSL) program.

A series of quality control studies have been conducted by ED in the past. However, each focused only on a single program, such as the Pell Grant Studies, or developed and pilot-tested a methodology for measuring error in one or more of the programs, which was the purpose of Stage One of the present study. These prior studies produced data that provide important reference points for the present study. The Stage Three Pell Grant Quality Control Study, conducted during 1982-83, permits a comparison of estimates of error between the 2 years. The Title IV Stage One pilot provides points for corroboration of the Stage Two error data.

This study, like the previous studies, uses a broad definition of error. Error, for the purposes of the study, goes beyond liability and focuses on quality. The error figures do not imply any deliberate waste or fraud, nor should they be interpreted as placing blame on either students or institutions. Instead, the error figures relate the extent to which Title IV awards deviate from "true" or intended aid. As such, much of the error is inherent given the error-prone nature of the Title IV delivery system.

The purpose of the Findings volume is to present the results of our analysis of the level and frequency of error in respective Title IV programs. These analyses produce program-wide estimates of error, apportion this error to its sources (students and institutions) and finally, trace error to the student application or institutional items that caused the error.

Examining quality in each program requires different definitions and measures of error due to the uniqueness of each program. For example, the payment consequences of errors in application or institutional items in the Pell Grant program can be measured accurately due to the relatively strict rules that govern the program. The Campus-Based programs require a different approach due to the different delivery system and means of assessing need for program funds. Consequently, resulted in $64 million. Prospective items as a group contributed about $78 million to Pell student error.

- Thirty percent of the recipients had institutional errors which averaged $460 per recipient with error. These errors resulted in $386 million in program wide error, or 11 percent of program funds.

- Categorical errors, which make students ineligible for Pell Grants, resulted in $114 million in institutional error. Errors in determining enrollment status were the most frequent institutional errors.

- Comparison of these data with Pell Stage Three error data in the 1982-83 year indicates a decrease of percentage of program funds in error from 25 to 21 percent. However, the percentage of recipients with error was about 50 percent in both years.

Error in the Campus-Based Programs

Several error measures are necessary to adequately assess quality in the Campus-Based programs, as discussed above. This section presents the findings for need error, awards in excess of need, and distributional error.

- **Absolute need error** (increases in need added to decreases in need) occurred in 77 percent of cases and averaged $1,080 per recipient with error. **Net need error** (increases offsetting decreases in need) resulted in $504 million in need overstatements and averaged $509 per recipient with a need error. **Awards in excess of need** (cases where best need fell below award) were present in 22.5 percent of the cases totaling $265 million. Finally, **distributional error** (an estimate of the extent to which need changes translate into likely changes in award) totaled $574 million and averaged $649 for the 69.1 percent of recipients with a distributional error.

- **Net student need error** occurred in 65 percent of the cases and totaled $403 million, averaging $488 per recipient with error. **Net institutional need error** occurred in 32 percent of the cases and totaled $100 million, averaging $249 per recipient with error.

certification amount when best values are used, subject to maximum loan amounts. However, these estimates do not represent costs to the government. Costs to the government are estimated by taking into account loan amounts and government costs per dollar loaned.

Each of these measures is presented in the following sections, and where appropriate, comparisons are made to prior studies.

Error in the Pell Grant Program

Stage Two analysis produced the following findings concerning error in the Pell Grant program.

- About 54 percent of 1985-86 Pell Grant recipients had errors which resulted in changes in award averaging $502 per recipient with error. The frequency of overawards was more than double that of underawards.
- Absolute program-wide payment error (adding overawards to underawards) totalled $763 million, which represents 21 percent of the total program funds awarded that year.
- Net program-wide error (overawards offsetting underawards) totalled $407 million and averaged $267 per recipient with error.
- Student error occurred more frequently and accounted for more error than institutional error. About 32 percent of the recipients had student errors which averaged $486 per recipient with error. These errors resulted in $439 million in program-wide payment error or 12 percent of program funds.
- Several individual and group items had significant impacts on Pell student error. Errors in non-taxable income resulted in $75 million in net payment error; errors in reporting home equity (calculated by subtracting home debt from home value)

error measurement in these programs first requires calculating changes to need, a measure of a family's ability to pay for education which takes into account the cost of education and other financial aid available.

Program-wide estimates of need changes are an important but incomplete measure of quality in the Campus-Based programs since many institutions do not fully meet need with awards. Thus, two other error measures are used to translate need changes into award consequences for the Campus-Based programs. The first is awards in excess of need, a conservative estimate in which error occurs only when recalculated or "best" need falls below award and measures error as the differences between recalculated need and award. Hence, if need falls from $5,000 to $2,000 and the award was $2,500, this measure considers the error to be $500, similar to liability as defined by Campus-Based regulations. Distributional error represents the likely payment consequences of need changes resulting from repackaging of awards through the use of institutionally-specified packaging algorithms and original individual award packages. Reducing errors in the Campus-Based programs will not result in cost savings to the government since funds distributed erroneously would presumably be distributed to other eligible students at the institution.

Error in the GSL program is measured at the point of certification of a loan(s) by the institution and is defined as the decrease in

- Errors in estimating expected income led to the largest need errors for individual items. Errors in expected taxable and non-taxable income each resulted in $114 million in need error. As a group of items, prospective items resulted in $319 million in need error.

- Institutional error most often occurred due to errors in factoring Pell awards into Campus-Based need. However, errors in disbursement, initial overawards, and categorical errors committed by institutions contributed heavily to institutional errors. These three items caused $42.8 million, $47.2 million, and $45.0 million, respectively, in institutional error.

- These findings generally corroborate the findings from the Stage One pilot.

Exhibit 1 is a summary of error data for the Pell Grant program.

Error in the GSL Program

Following are highlights of the findings from Stage Two on overcertifications in the GSL program.

- Approximately 20 percent of the cases had GSL certification error. These overcertifications accounted for $920 million program-wide and averaged $1,306. Overcertification will result in estimated costs to the government ranging from $264 million to $518 million over the life of the loans.

- Both students and institutions were prone to committing errors that caused overcertifications. Student errors causing overcertifications occurred in 10.6 percent of the cases and accounted for $494 million program-wide. Institutional errors were slightly more prevalent in 13.5 percent of the cases, and totaled $587 million program-wide.

- Institutional error was most often attributed to errors in determining EFC. This occurred in 6.2 percent of the cases and accounted for $260 million program-wide.

ABSOLUTE ERROR

Error	Program-Wide Estimate ($ Millions)	Program-Wide Estimate (% of $ Awarded)[a]	Mean Error per Recipient ($)	Cases w/Error[b] (%)	Mean Error per Recipient w/ Error ($)
Institutional	386	11	138	30.0	460
Student	439	12	157	32.3	486
Overall	763	21	273	54.4	502

NET ERROR

Error	Program-Wide Estimate ($ Millions)	Program-Wide Estimate (% of $ Awarded)[a]	Mean Error per Recipient ($)	Cases w/Error[b] (%)	Mean Error per Recipient w/ Error ($)
Institutional	134	4	47	30.0	158
Student	272	8	97	32.2	300
Overall	407	11	145	54.4	267

OVERAWARD ERROR

Error	Program-Wide Estimate ($ Millions)	Program-Wide Estimate (% of $ Awarded)[a]	Mean Error per Recipient ($)	Cases w/Error[b] (%)	Mean Error per Recipient w/ Error ($)
Institutional	260	7	93	18.4	504
Student	356	10	127	23.2	547
Overall	585	16	209	37.1	564

UNDERAWARD ERROR

Error	Program-Wide Estimate ($ Millions)	Program-Wide Estimate (% of $ Awarded)[a]	Mean Error per Recipient ($)	Cases w/Error[b] (%)	Mean Error per Recipient w/ Error ($)
Institutional	126	4	45	11.6	390
Student	84	2	30	9.1	328
Overall	178	5	65	17.5	369

[a] Amount of Pell awards is $3.6 billion for 1985-86.

[b] Error is defined as a discrepancy of plus or minus $50 from the best award.

EXHIBIT 1. A SUMMARY OF AMOUNTS AND RATES OF ERROR
IN THE PELL GRANT PROGRAM, 1985-86

- Because of the requirements of the GSL program (in 1985-86), students whose adjusted gross income is $30,000 or less are assumed to have need for a GSL. Therefore, error in these cases is extremely low. (The Higher Education Act now requires need analysis for all GSL recipients.)
- These findings indicate that the Stage One pilot generally underestimated the level of certification error.

These findings, when viewed in conjunction with the findings in the Pell and Campus-Based programs, suggest patterns of error that are Title IV-wide. The findings show student and institutional errors to be major concerns in all of the Title IV programs. In addition, because there exists a core amount of student and institutional error, these findings suggest that structural changes in the programs may be required to reduce error significantly.

Efforts to Improve Quality

In addition to measuring the level of error in each of the Title IV programs, the study focused on the effectiveness of two key efforts to improve quality in the programs. We analyzed ED mandated validation[1] in the Pell program and optional institutional validation activities in the Pell, Campus-Based, and to a limited degree, GSL programs, as well as voluntary institutional quality or internal control procedures. The study data concerning validation indicated the following:

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[1] Throughout this report we use the term "validation" to refer to activities in the Pell program that are associated with confirming the value of student-supplied data. In addition, we also use the term to refer to optional activities of institutions to verify the data outside the scope of the Pell Grant program. We use the term validation to avoid confusion since the activities included in this report occurred in the 1985-86 academic year, prior to recent regulations that formulated an integrated system.

- Validation, mandatory and voluntary, occurred for 80 percent of the Pell Grant recipients.
- Students selected for validation by the Pell Processor had the highest rates of error on their initial applications for the six data items mandated for validation. Error remaining in these items after validation was not much different for Pell selected, institution selected, and not selected students.
- Potential payment error per recipient after the students' first valid SAR transaction was highest for students not selected for validation.
- Despite not targeting well, institutions do a good job of removing potential error.
- Validation in the Campus-Based programs was virtually as extensive as in Pell, with recipients receiving awards from multiple programs most likely to be validated. Pell validated Campus-Based recipients had the lowest error rates.
- Validation in the GSL program is relatively rare.

Analysis of institutional quality control procedures and their effectiveness in controlling institutional error across the Title IV programs indicated the following:

- Pell and Campus-Based recipients attending institutions that used particular types of quality control procedures extensively (e.g., sampling) had a significantly lower error rate than recipients attending institutions with other types of quality control procedures.
- Recipients attending institutions with low or no quality control procedures had the highest institutional error rates of recipients at all institutions.

The findings are discussed in detail in the following chapters.

1.0

INTRODUCTION

This chapter presents the framework within which the analyses associated with Stage Two of the Title IV Quality Control (QC) project were conducted. In this chapter we discuss student aid programs and ED's quality control efforts, present a summary of the Title IV QC Project, discuss the limitations of the study, and relate this volume to the other volumes of the Final Report.

1.1 STUDENT AID PROGRAMS AND QUALITY CONTROL

Five major Federal programs of financial assistance to postsecondary students have evolved from legislation of the 1960's and early 1970's. Collectively, these five programs are known as the "Title IV" programs, after Title IV of the Higher Education Act which, as amended, provides the legislative authority for them. The five major Title IV programs can be divided into three groups: the Pell Grant program, the Campus-Based programs, and the Guaranteed Student Loan (GSL) program. These programs are profiled in the following paragraphs. For a more complete discussion of the programs see Appendix A, which is bound under separate cover from this document.

The Pell Grant (formerly BEOG) program is an entitlement program for undergraduate students, designed to be the foundation upon which all other Federal, state, and private aid builds. The Pell Grant program was implemented in academic year 1973-74. Eligibility for the program is determined through a nationally uniform financial eligibility test, called the Family Contribution Schedule, developed by ED and approved by Congress every year. Usually, institutions disburse the funds directly to students based upon a payment schedule developed by ED. Currently, awards range from $200 to $2,100 for full-time students. Awards are reduced proportionately for part-time students.

Each of the three Campus-Based programs (National Direct Student Loans, College Work-Study, and Supplemental Education Opportunity Grants) is administered by participating postsecondary institutions. Each participating institution applies annually for funds in the subsequent year, and reports prior year activity on the "Fiscal Operations Report and Application to Participate in Federal Student Financial Aid Programs" (FISAP). Individual institutions are free within the regulations to establish the parameters within which the Campus-Based aid is awarded. Financial aid administrators at these institutions award Campus-Based funds in conjunction with other programs to meet student need as determined by an ED-approved need analysis procedure, most often the Uniform Methodology.

The Guaranteed Student Loan Program (GSL) provides the most financial assistance to postsecondary students of all Title IV programs. It makes available to students attending eligible postsecondary institutions loan funds with which to meet educational expenses. The program uses capital provided through private sector banks, savings and loan associations, credit unions, and educational and other financial entities. The Federal government subsidizes these loans through "special allowances" to lenders in order to increase lender yields to provide a more equitable return. In addition, the government pays the full interest on borrowed amounts when students are in school, in a "grace period," or during periods of deferment.

These Title IV programs have grown over time, both in the number of recipients participating in the programs as well as in the amount of aid delivered through the programs. Exhibit 1-1 summarizes the growth in the programs between 1982-83 and 1985-86. As demonstrated in Exhibit 1-1, the GSL program is the largest of the Title IV programs with 3.8 million loans made for the 1985-86 academic year constituting $8.8 billion in loans. This represents an increase of approximately 1 million loans and $2.6 billion in total loans from 1982-83. In contrast, the Pell program has 2.7 million recipients with $3.6 billion distributed, which indicates an increase of $1.2 billion in funds distributed and 100,000 more recipients. The Campus-Based programs have 2.4 million recipients (duplicated) and $1.9 billion delivered, an increase of $300,000 dollars in aid delivered and an increase of 400,000 recipients[1].

In addition to being large, aspects of the Title IV programs are very complex. Each of the three Title IV programs uses a separate need analysis system and a separate system to deliver aid to students. In

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[1] These figures were obtained from Departmental sources including data from the 1984-85 "Program Book" and estimates from the Division of Policy and Program Development.

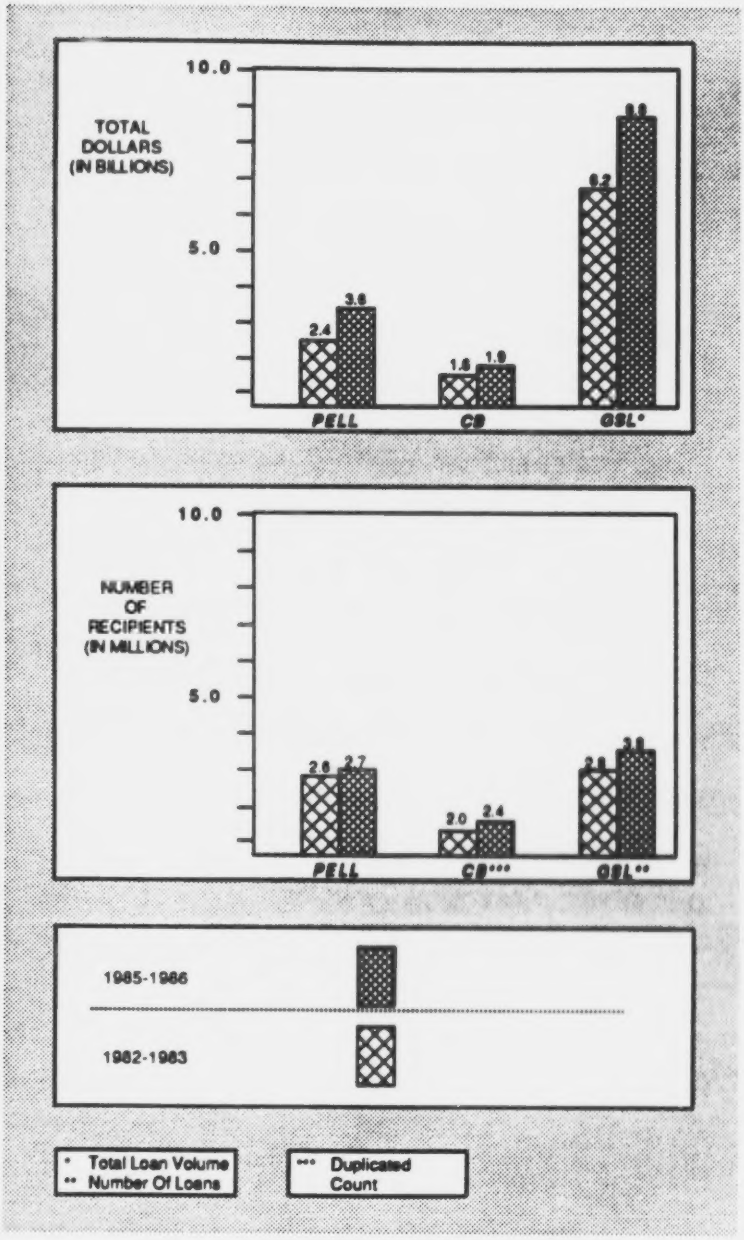

EXHIBIT 1-1. EXPENDITURES AND RECIPIENTS FOR THE TITLE IV PROGRAMS: 1982-1983 AND 1985-86[1]

[1] Figures for 1982-83 obtained from the ED Program Book, and the 1985-86 figures were obtained from DPPD.

addition, while the Pell program has a single set of application data and corresponding formula that all applicants use, both the Campus-Based and GSL programs have multiple types of applications and formulae which are a likely source of complexity in processing and delivering aid. Furthermore, in the GSL program there are many lenders and guarantee agencies that are involved in the process of making loans to students. However, ED has made attempts in the recent past to decrease the complexity of the delivery systems used for the Title IV programs. These attempts have included the Reauthorization of the Higher Education Act and the Consolidated Omnibus Budget Reconciliation Act (COBRA).

Quality control has emerged as a fundamental concern in all entitlement and transfer programs government-wide (e.g. in the Food Stamp, AFDC, and Medicaid programs), especially in Federal student aid. ED has been concerned with quality in the delivery of Federal student financial aid for some time. In 1977 the Office of Education's Bureau of Student Financial Assistance was reorganized along functional lines and included, for the first time, an organizational unit dedicated to improving quality in the delivery of student aid, the Division of Quality Assurance (DQA). Over nearly a decade an established quality program has emerged within ED.

ED's quality program for delivery of student financial aid has five overarching objectives that affect the direction and focus of its related activities. These objectives are:

- Develop procedures to define quality in the Title IV programs

- Identify, measure, and evaluate deviations from quality (the occurrence of error)
- Determine the causes and factors affecting major errors
- Identify, analyze, and implement corrective actions
- Monitor the effects of corrective actions on quality.

In the last decade, considerable progress has been made in increasing awareness throughout ED of the consequences of a lack of quality in Federal programs and in expanding its quality program. As a result, several steps have been taken to ensure that student aid is being delivered in an efficient and equitable fashion, including:

- Inclusion and monitoring of quality control requirements in each ED contract involving the delivery of student aid
- Conduct of several studies of program administration by the Department of Education
- Introduction of error-prone modeling techniques for the selection of Pell Grant recipients for institutional validation and development of comprehensive edits of application data
- Matches of application data with other Federal sources of financial information
- Extension of the validation requirements to include the Campus-Based and GSL programs and continued training opportunities for institutional financial aid and fiscal personnel
- Development of policy initiatives to expand quality control at the institution level.

As briefly mentioned above, the Department has conducted a series of studies that have measured and analyzed the error in the Title IV programs. These quality control studies have included: the Pell Grant Quality Control Contract, Stage Three of which measured error in the Pell program for the 1982-83 academic year; Stage One of the Title IV Quality

Control Contract, which measured error in the Pell program and tested a methodology to measure error in the Campus-Based and GSL programs for the 1983-84 academic year; and the current study -- Stage Two of the Title IV Contract, which constitutes the first integrated study to measure error in the Pell, Campus-Based, and GSL programs. The Stage Two data base will allow important interactive analyses to be conducted.

In another attempt to improve the quality in student financial aid, starting in 1979 the Department instituted pre-award validation requirements to be conducted by the institutions participating in the Title IV programs. (Prior to this initiative, a limited number of aid applicants were validated by the Department - a process which took place after award and proved to be unsuccessful.) Since its inception, this institution level validation has grown in several ways:

- An increase in the number of applicants chosen for validation
- An increase in the number of data items to be verified
- Information obtained via Pell validation must be used in determining Campus-Based and GSL aid.

For 1986-87, the Pell validation program was re-named "integrated verification" and expanded to include Campus-Based and GSL programs. The effectiveness of this mandated integration can only be measured through future quality control studies.

Coupled with the mandated validation requirements, institutions have also implemented their own verification programs. Institutions not only validate those applicants flagged for validation, they voluntarily choose to verify additional data items and/or an increased number of students and/or applicants from all three Title IV programs. Institutions have developed such programs in an effort to increase the quality in the programs and distribute financial aid in a more equitable manner.

In addition to the quality control efforts initiated by both the institutions and ED, the Department is also currently conducting a pilot project to assess the feasibility of developing and implementing a quality control system for the financial aid programs at the institutional level. This project is called the Institutional Quality Control Pilot Project and was developed as a corrective action to findings in previous QC studies, which demonstrated that schools with a comprehensive quality control system were associated with lower rates of error. This Pilot constitutes a "partnership" approach to quality control in that institutions voluntarily participate in a joint effort with the Department to improve the student financial aid delivery process.

Through the growth and maturation of the Title IV programs quality has become an increasing concern, and will continue to be a concern of all those involved including Congress, ED, institutions, and students. The delivery systems are complex in nature and contain many aspects that are inherent obstacles to quality including some data items used by the system to determine awards. The trend in error rates has shown that error is significant in the Title IV programs. Thus, in order to improve the quality of the programs, the parties involved face the dilemma of accepting the status quo or restructuring aspects of the program in order to reduce error. In spite of these obstacles, all parties have an interest in ensuring that the quality in the programs is high and improves.

Institutions have become increasingly dependent on the availability of financial aid for their students. Federal student aid today represents a major subsidy for American colleges and universities. Federal funds represent approximately 76 percent of all student aid funds (Federal, State and institutional).[2] By ensuring that their students are awarded the correct amount of financial aid, neither more nor less than the amount to which they are entitled, institutions reduce their exposure to liability. Furthermore, the Department needs to assure Congress that Federal funds are being delivered accurately and as intended.

All of these factors: the growth and complexity of the Title IV programs, previous activities the Department has undertaken to assess and improve quality, and the interest that all parties share in ensuring the quality of the programs combine to underscore the need to focus on quality in the Title IV programs. It is within this context that the current study seeks to measure the quality of the Title IV programs, compare these results to previous studies where applicable, and confirm data from previous studies where only preliminary or experimental data exist.

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[2] Derived from data compiled from The College Board, Trends in Student Aid: 1980-86, 1986, using revised estimates for 1985-86.

1.2 TITLE IV QUALITY CONTROL PROJECT SUMMARY

In January 1984, the Office of Student Financial Assistance (OSFA) of the U.S. Department of Education (ED) contracted with Advanced Technology, Inc., of Reston, Virginia, to conduct a two-stage study of the five principal student aid programs funded under Title IV of the Higher Education Act. Advanced Technology engaged Westat, Inc., of Rockville, Maryland, to perform field work and provide technical assistance in special areas such as sample design.

This Title IV Quality Control Project has five overarching objectives that are derived from quality control methodology and are identical to the objectives of ED's quality program. These objectives also form the basic components of the project itself. While these objectives are common to both stages of the project, relative priorities had to be established.

Stage One of the Title IV Quality Control Project, conducted during 1984, was designed as a "pilot study." The pilot study was restricted to the Campus-Based and GSL programs since three field studies of the Pell Grant program had already been done.

Stage One had two primary objectives: 1) to make a preliminary assessment of quality in delivery of Campus-Based aid and certification by institutions of student eligibility for GSL's, and 2) to test and refine the methodology for defining and measuring error in the Campus-Based programs and the GSL certification process. Both the preliminary error estimates and the lessons learned from the methodological trial in Stage One were used in the design of Stage Two, "An Integrated Study," which added the Pell Grant program to the programs examined in Stage One, and thus includes all the Title IV programs.

Stage Two of the Title IV Quality Control Project has four primary objectives based on the findings from Pell and Stage One. They are:

- To determine whether the level and patterns of error persist in the Title IV programs and assess any interactive effects
- To assess the effects of prior ED corrective action initiatives
- To measure structural error (i.e., error not amenable to corrective actions)
- To describe the effects of proposed major corrective actions on improving quality in the delivery of Federal student aid.

Stage Two provided an opportunity to monitor the effects of corrective actions already in place or recently added to any of the programs as a result of recommended corrective actions from Stage One or the earlier Pell, Stage Three Study.

As already noted, the study methodology had been used three times for the Pell Grant program. While the Pell Grant and other Title IV programs have strong similarities, the Campus-Based and GSL programs present unique challenges for error measurement. Attempting to measure error in the Campus-Based and GSL programs requires a sophisticated methodology that can accommodate 1) interaction of three Campus-Based programs, 2) institutional discretion in adjusting need analysis data and the expected family contribution (EFC) on an individual basis, and 3) institutional discretion in awarding and packaging aid. In addition, the methodology must be sensitive to the difficulty of assessing the payment consequences of certain types of errors.

The methodology employed in Stage One and Stage Two addresses the unique characteristics of the Campus-Based and GSL programs and their administration. Several error definitions are used, and error is calculated with types of errors either included in or excluded from each definition. These error measures and definitions are discussed in the following chapter.

The research methodology is essentially the same in Stage Two as it was in Stage One and Pell Stage Three, having the following basic components:

- Specification of the delivery system and its error points
- Identification of the types and sources of available data
- Definition of program error
- Identification of potential causes and their relationship to error
- Identification of corrective actions and analyses of likely benefits and costs
- Determination, collection, and processing of the required data
- Analysis and reporting of results.

1.3 LIMITATIONS OF STUDY DESIGN AND METHODOLOGY

The study design and methodology employed in Stage Two of the Title IV Quality Control Project has been thoroughly tested and has proved to be both efficient and effective in producing significant data concerning quality in the various Title IV student aid programs for policy making purposes. The methodology produces the most robust results at the program-wide level. However, the design necessary to produce these results, coupled with the data collection and sample size restrictions imposed by cost considerations, present limitations that must be explicitly stated in presenting the study methodology.

The Title IV Quality Control Project's primary objectives relate to measuring error and identifying and assessing the likely effects of corrective actions. The first objective, concerned with measuring error, is a prerequisite to the remaining objectives (which focus on corrective actions) and thus drives the study design. A design that maximizes the ability to measure and decompose error necessarily focuses on the numerous potential error points in the delivery system. Consequently, the greatest portion of data collection resources are dedicated to obtaining student application and institutional data related to the delivery system error points. Student record abstraction, interviews, and obtaining data from banks, Federal agencies and other sources constituted data collection. Fundamentally, the study methodology becomes corroborative: the data collection seeks to obtain data from alternative, more reliable sources in order to confirm the validity of the data originally used to award aid.

The necessary dominance of error measurement in the study design has important implications for the ability to identify and assess the likely effects of particular corrective actions to reduce error. The first implication limits the identification of corrective actions for analysis to practices that exist at institutions. Second, given realistic resource constraints, data collection focused on institutional practices and characteristics limited to a small set of data that are hypothesized to relate to variation in error. Actively searching for other practices and characteristics would require different methodologies such as case study and process assessment techniques. In addition, no cost data are available for corrective actions, since this would also require different data collection techniques. Third, the sampling requirements for a national error study necessitate sampling a large number of institutions with a relatively small number of students at each. For these reasons, this sampling design maximizes the precision of program-wide error estimates.

Two other factors pose limitations for the study results. The data themselves pose important limitations for both characteristics associated with error and identification of corrective actions. The relative frequency and variation of certain types of error - particularly institutional error - makes meaningful analysis very difficult in many instances. For example, the occurrence of individual errors may be relatively infrequent, despite the magnitude of the payment consequences, and therefore not yield an adequate number of observations for analysis. In addition, error may not vary adequately across independent variables (e.g., institutional practices) to produce conclusions concerning the relationship between the dependent and independent variables. Frequently, error may be varying by other variables, for which we are unable to control due to the data collection focus.

Lastly, the sample size poses a limitation for analysis. A sample of approximately 300 institutions and 3,000 students will yield error estimates at the program-wide level that are sound for policy making purposes. However, precision of error estimates at this sample size (a function of cost) drops as error is decomposed into sources and especially individual errors. The combination of the relative infrequency of certain individual errors and the implication of the overall sample size at this level effectively limits the analyses that can be conducted.

Despite these limitations, the design methodology effectively produces robust, important policy making data concerning quality in the Title IV student aid programs and powerful data concerning corrective action initiatives at high levels of aggregation.

1.4 PRESENTATION OF STUDY RESULTS

The final report on Stage Two of the Title IV Quality Control Project consists of this report, a separately bound Appendix, plus two other numbered volumes and an executive summary. The executive summary includes material from all three numbered volumes.

In this report, Volume I, Findings, we present the principal findings regarding the level and sources of error and the most significant individual errors and groups of error in the Pell and Campus-Based programs and the GSL certification process. The analysis in this volume includes institutional and student characteristics that are associated with error. Results of analyses focusing on quality improvement efforts are also presented.

Volume II, Corrective Actions, is based on Volume I. In it we recommend those corrective actions which appear to be most promising in reducing the amount of error in the various programs.

Volume III, Procedures and Methods, presents the methodology used in conducting the study, including sampling, data collection and data processing, and the level of nonresponse and estimates of variance and their effects on the sample.

2.0

ISSUES IN DEFINING AND MEASURING ERROR

Our approach to measuring error in Stage Two first defined error as the difference between need, certification, or award calculated using data reported by the student and/or used by the institution (baseline data) and the need, certification, or award calculated using "best value" data. "Best values" are data obtained during the course of data collection. The best value data are considered the most accurate and reliable data available. Our methodology was designed to calculate error by collecting data from students, parents, institutions, and external sources to confirm the values institutions used in calculating need and award. In the absence of such confirmatory data, for any given item, the value reported by the student was accepted and considered the best value. This chapter presents our approach and discusses issues inherent in the process of defining and measuring error.

2.1 ISSUES IN DEFINING ERROR

When developing error definitions for Stage Two, it was important to focus on the objectives of the current study and place these in the context of previous studies. Two critical issues that affected our error definitions included the fact that the Stage Two study is an integrated study measuring error in the Pell, Campus-Based, and GSL programs and the fact that previous studies have used broad definitions of error. These issues and their implications for this study are discussed in the following sections.

2.1.1 Differences from Previous Studies Involving Comparisons Across the Title IV Programs

Stage Two is different from prior QC studies in that it measures errors in all five Title IV programs (Pell, the three Campus-Based programs, and GSL). Differences among the programs require the use of different error measures and avoidance of comparisons of data across programs. For example, it is inappropriate to compare program-wide payment error in the Pell Grant program with need error in the Campus-Based programs, since the former has direct budgetary effects to the Federal government, while the latter does not.

2.1.2 Liability Versus Quality

Previous quality control studies have evaluated the broad delivery process, including in error definitions discrepancies that are not strictly regulatory violations. The goals of the studies have been to evaluate deviation from the intent of various aspects of the delivery system. For example, the studies have explored whether estimated or prospective applicant data are accurate predictors in an attempt to evaluate the effects of such data on the distribution of program funds to students.

In Stage Two we continue to distinguish between liability according to program regulations and the measurement and analysis of error that will accurately reflect deviation from quality in the delivery of Title IV funds. Our study design focuses on errors having significant impacts on program quality, and particularly those errors which prior studies have indicated occur relatively frequently.

This is consistent with the study objectives, stated in Chapter 1, which encompass the determination of error in the Title IV programs, patterns of error across the programs, and the effects of prior and potential corrective actions. These objectives require an approach to error measurement that focuses on the broad functions of the delivery system and the achievement of program intent. Liability, as a narrower approach to error measurement, is an important subsidiary concept in error measurement, but does not constitute a comprehensive reflection of deviation from quality in the Title IV programs. Furthermore, looking only at liability could mask systemic problems, which often are the source of unintended but significant variances in awards, that result in wasteful expenditure of scarce tax and institutional dollars.

2.2 MEASUREMENT OF ERROR

Developing measures of error for the Stage Two study required establishing a conceptual framework within which we measured errors and then designing error measures consistent with this conceptual framework. In part, the framework is defined by the programs for which each error measure is established. The following sections discuss the conceptual framework and measures used in the Stage Two study.

2.2.1 Conceptual Framework of Error Measures

Measurement of error in the Pell, Campus-Based, and GSL programs requires the use of several conceptually distinct error definitions due to the unique characteristics of each program. For example, a change in a reported data element has a known effect on the applicant's Student Aid Index (SAI) and Pell Grant award at a given enrollment status and cost of attendance. Thus, such changes, and therefore error, can be modeled precisely because Pell is a formula-driven entitlement program.

The characteristics of the Campus-Based programs require a distinct and different approach to conceptualizing and measuring error. Although need analysis (e.g., Family Contribution Schedule and need analysis service formulae) performs a function much like the Pell formula, the resulting Expected Family Contribution (EFC) does not determine an award, but rather is used by institutions as an input to discretionary packaging algorithms (formal or informal) to meet a portion of need with a grant, loan, and/or work. Thus, the effect that changes in student reported data will have on awards can only be estimated.

Changes in Campus-Based need is a necessary intermediate step and an important measure of the impact of student data and other errors in the programs. However, because of the intervention of institutional discretion, it cannot be used as a proxy for changes in awards, since need changes often do not result in dollar for dollar changes in awards. The regulatory definition of error, defined as awards made in excess of need, is not an entirely satisfactory measure since it underestimates the likely impact of need changes because few institutions meet full need. Thus, an additional error definition must be used in assessing quality in the Campus-Based programs, i.e., distributional error. This measure uses packaging algorithms that are developed from actual institutional policies and constraints to repackage Campus-Based awards for students with need changes. This measure has the effect of simulating what institutions would have awarded had best values been available when aid was originally awarded and more closely estimates the impact of errors in the Campus-Based programs.

Measurement of error in the GSL program presents other methodological problems. Institutions, one of the major foci of the study, play a limited role in the program, i.e., certifying the amount for which a student is eligible. Program limits, students who apply for less than the maximum amount, and lenders and guarantee agencies jointly determine the actual loan amount. Often, institutions may not know the exact loan amount, or if the student even completed the loan process and received a loan. Therefore, this study's focus is only on error in the certification process.

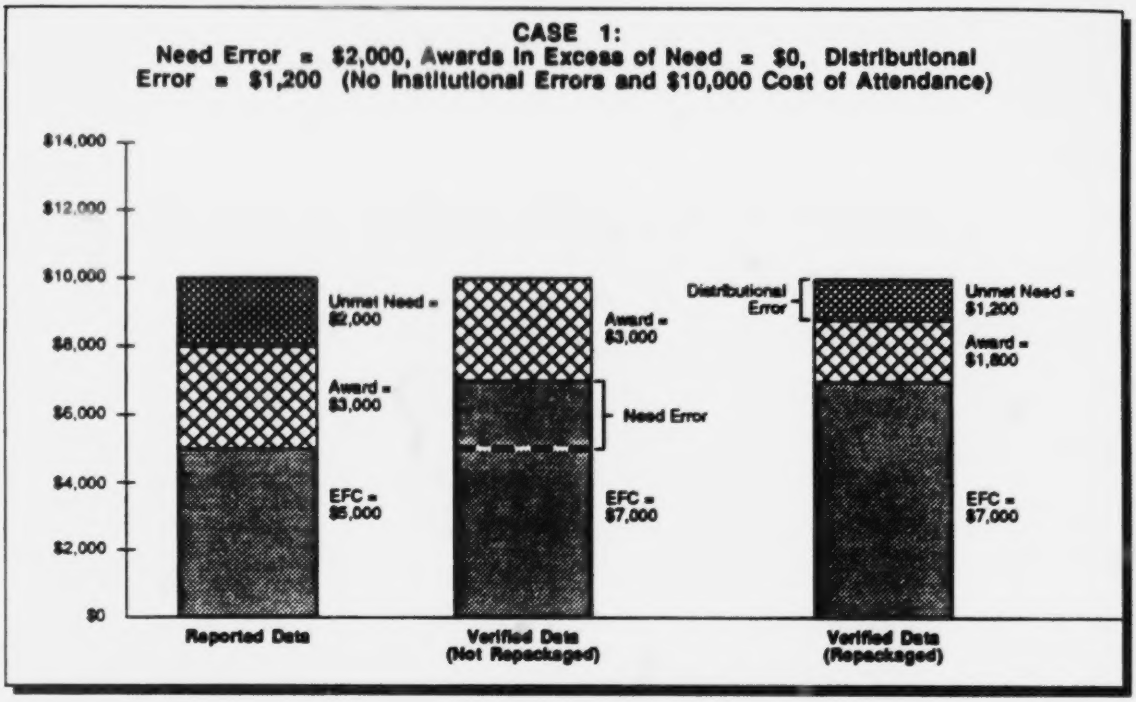
2.2.2 Measures of Error

Five different aggregate error measures are required for the three programs. Programmatic and measurement differences make it impossible to compare these error measures since identical errors translate into payment consequences at different rates in each of the programs. These error measures are as follows:

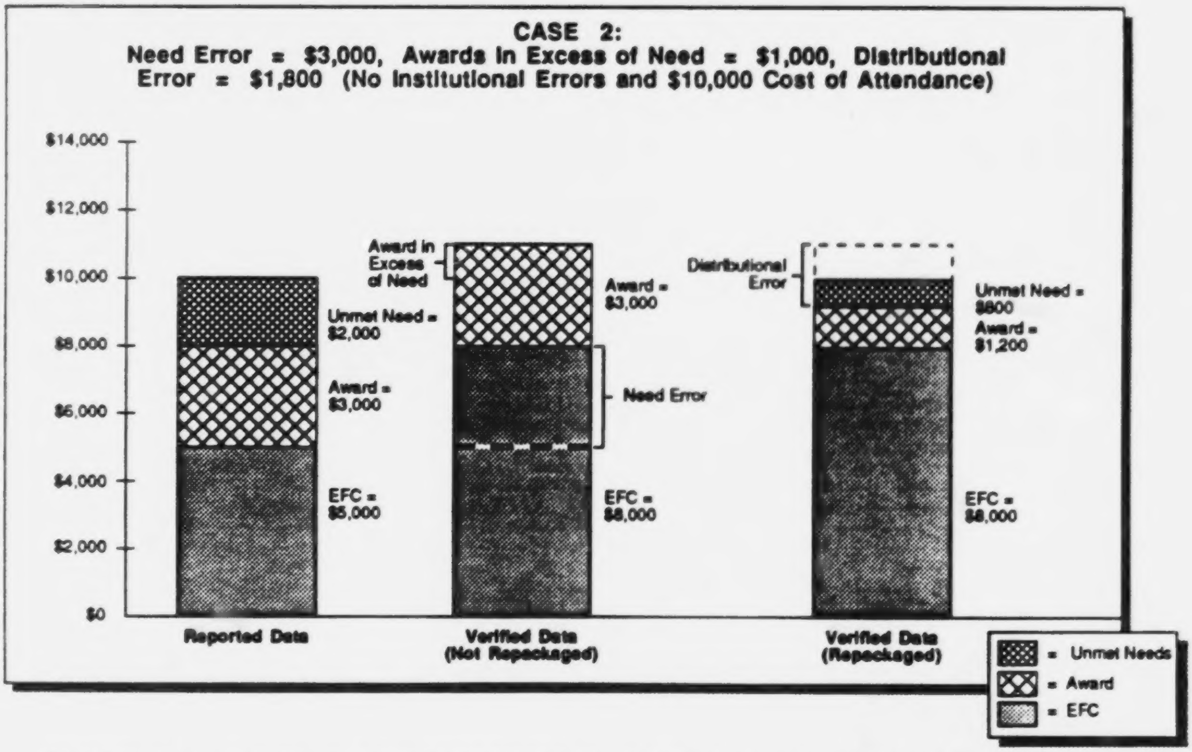
- **Pell program-wide payment error** is a measure of differences between actual awards generated from reported data and best awards using best data. This is a measure of deviation from quality in the program.
- **Campus-Based need error** is a measure of the impact of student reporting error and certain institutional errors in Campus-Based need. This is computed by comparing reported need used by institutions to package awards with best need calculated using best values. Need is simply the difference between cost of attendance, and the sum of family contribution and other aid received.
- **Campus-Based awards in excess of need** is a measure that approximates the regulatory concept of error in that only those need changes that cause need to fall below award are considered in error.
- **Campus-Based distributional error** is a measure that more closely approximates the likely payment consequences of errors since all need changes are repackaged to simulate institutional packaging. (Exhibit 2-1 summarizes the differences in the the three types of Campus-Based error.)
- **Guaranteed Student Loan certification error** is a measure of the aggregate change in certifications when best cost of attendance, family contribution, and other aid are substituted for reported data. Certifications are capped at the 1985-86 program limits of $2,500 for undergraduates and $5,000 for graduate students.

The error measures are decomposed into three types of error: student reporting error, institutional error, and overall error. The definitions are as follows:

- **Student reporting error** is the result of recipients providing inaccurate data at the time of application and subsequent to it. This decomposition is silent on whether the error was conscious or inadvertent or whether it was true at the time of application and subsequently changed.
- **Institutional error** is the result of institutions using incorrect data or using reported data incorrectly in awarding, processing, or disbursing aid and includes errors



CASE 1:
Need Error = $2,000, Awards in Excess of Need = $0, Distributional Error = $1,200 (No Institutional Errors and $10,000 Cost of Attendance)



CASE 2:
Need Error = $3,000, Awards in Excess of Need = $1,000, Distributional Error = $1,800 (No Institutional Errors and $10,000 Cost of Attendance)

EXHIBIT 2-1. EXAMPLE OF DIFFERENCES IN CAMPUS-BASED ERROR DEFINITIONS

that affect student need, "categorical" eligibility, disbursements, and required procedures (mostly collection of documentation).

- **Overall error is the total result of incorrect student reporting and institutional errors in handling data, categorical errors, or procedural errors.**

2.3 ERROR CALCULATION

Combining the five error measures with the three types of error results in 15 major errors which needed to be calculated. These calculations are as follows:

- Pell

  -- Overall: The amount by which the award disbursed differed from the award that should have been disbursed. It measures deviation from quality in the program and is equal to the Actual Pell Award minus the Best Pell Award.

  -- Institutional: The amount by which the award disbursed differed from the award that should have been disbursed if no institutional mistakes were committed. It equals the Actual Pell Award minus the Best Institution Pell Award.

  -- Student: The impact of recipients providing inaccurate data at the time of application or subsequent to it. It equals the Best Institution Pell Award minus the Best Pell Award.

- Campus-Based Need Error

  -- Overall: Need used by institution minus best need using best eligibility status, best EFC, best cost of attendance, and best Pell award and other aid (including GSL if packaged before Campus-Based).

  -- Institutional: Need used by institution minus the best institutional need calculated using best eligibility status, EFC computed using reported application values, best cost of attendance, best institutional Pell and other aid (including GSL if packaged before Campus-Based).

-- Student: Difference between best institutional need and best need which measures the impact of student errors in EFC holding institutional parameters constant at best values.

- Campus-Based Awards in Excess of Need

  -- Overall: Difference between amount awarded and best need if best need falls below amount awarded.

  -- Institutional: Difference between amount awarded and best institutional need if best institutional need falls below amount awarded.

  -- Student: Difference between amount awarded and best student need if best student need falls below amount awarded. Best student need, measures the impact of students misreporting EFC on the level of need. Best student need is calculated by adding student need error to the higher of the level of need at which the student was or should have been packaged.

- Campus-Based Distributional Error

  -- Overall: Difference between actual award and the award repackaged using all best values applied to best need.

  -- Institutional: Difference between actual award and the award repackaged using reported student values and best institutional values applied to best institutional need.

  -- Student: Difference between actual award and the repackaged award using best student values and reported institutional values applied to best student need.

- GSL Certification Error (all errors are capped at program limits)

  -- Overall: Amount of actual certification that exceeds the best certification computed using best

EFC, best eligibility status, best cost of attendance, best Pell award, and best other aid (including Campus-Based if packaged before GSL).

-- Institutional: Amount of actual certification that exceeds the best institutional certification calculated using reported EFC and best eligibility status, best cost of attendance, best institutional Pell, and best other aid (including Campus-Based if packaged before GSL).

-- Student: Amount of actual certification that exceeds the best student certification. Best student certification measures the impact of student misreporting of items comprising EFC on the level of certification. Best student certification is calculated by adding student need error to the higher of the level of need at which the student was or should have been certified, and then applying the relevant program limits.

A $50 tolerance was used for all errors.

2.4 ISSUES IN MEASUREMENT

When measuring and calculating error, several issues arise concerning what is defined as an error and what is not. These issues include: the discretion institutions have in certain areas of the Title IV programs and how this discretion is reflected in selecting best values; determining other aid, including estimating Pell Grants and establishing GSL resources; and determining the amount of Campus-Based distributional error. The following sections discuss each of these issues in detail.

2.4.1 Institutional Discretion and Best Value Selection

Institutions have discretion in certain areas of the Title IV programs. The discretion institutions have allows them to adjust values used for certain data items or the EFC in the Campus-Based and GSL programs. Institutions have the discretion to make these adjustments when the actual value of the items does not accurately reflect a student's situation. This discretion is accounted for in the process used to select best values. In addition to allowing for institutional discretion, selecting best values contains many other aspects that make it a complex process. The following sections discuss, respectively, the process of selecting best values, institutional discretion in adjusting individual data items, and institutional discretion in adjusting the EFC.

Complexity of Best Value Selection

The multiple data sources used in the study mean that many different values may emerge during the course of checking on application values of students and parents. If these values are consistent, best value selection is a simple matter. If these values differ, however, a method is required to determine the best value. The best value is the one that is documented and comes from the most reliable source. This is determined by merging the data from the various sources and selecting the best value using a SAS program designed for that purpose. The program is designed to select a value from a hierarchy of sources. Because the program selects the most reliable source, it selects the "best" or most reliable value available. In all cases, however, the program accepts the value reported by the applicant if more reliable data are not available. For example, in order to document the income of a dependent student's parent(s), the highest level of documentation is a copy of the parent's(s') 1040 from the IRS. If the 1040 from the IRS is not present, then a variety of other sources are acceptable as documentation. If no documentation is available, the program will use the reported value of the parent's(s') income.

The best value selection programs are tailored to the dependency status of the student and the data sources and items relevant to each dependency status. The first best value selection programs run are for student marital status and the six variables needed to determine dependency status. All other best value selections are specifically designed for either dependent students, independent students, or parents of dependent students and are run as indicated by the best dependency status.

Item Adjustment

In the Campus-Based and GSL programs, institutions are allowed to adjust application items to fit unique circumstances. When an institution uses its discretion to adjust or change application items, the institutionally-used value is the best value if, as the regulations require, the adjustment is explained or documented in the student's file. Thus, the item discrepancy, a factor in student need error, is zero and any other documented values obtained during the data collection are overridden. If the adjustment is not explained, we consider this omission an institution error that affects the determination of need. The institution error is the difference between the best value and the unexplained value, rather than the value reported by the student. The student error is the difference between the best value and the student reported value. This is only for unexplained adjustments, there is no student or institution error if adjustment is explained.

In the Pell program, application items can only be adjusted through the filing of a special condition application. This application is used by recipients whose existing circumstances are not accurately reflected by the data on the standard application. For special condition filers, the treatment of data values mirrors that used in the Campus-Based and GSL programs for institution adjustments. The best value is set to the reported value eliminating the possibility of incorrectly assessing errors for that item. There are no student errors for special condition filers.

EFC Adjustment

Institutions may make two types discretionary decisions which affect the EFC of their students. Institutions can adjust the EFC, or any of its component items on a student-by-student basis, or may select processing options (e.g. 9 vs. 12 month budget) which affect all students at their institutions. A review of the Student Record Abstract (SRA) data on EFC has revealed these practices to be widespread. If we could not replicate the EFC calculated by the institution, the discrepancy could have occurred for the two reasons mentioned above, either because the institution adjusted the student's EFC, or because the details on options specified to the need analysis service are not available from the SRA.

In order to more properly assess the change in EFC which results from student error in the detailed application items or EFC components, we calculated best EFC as the sum of the reported EFC and the difference between two calculated EFC values. The first EFC value was calculated using all best values (treating explained adjustments as best values). The second EFC value was calculated using all reported values. It was necessary to calculate best EFC in this manner to account for student error but allow for institutional discretion in adjusting EFC or its components. Thus,

Best EFC = ((EFC calculated using best values)
- (EFC calculated using reported values))
+ EFC used by institution

The following example should clarify this procedure. An AGI error exists such that EFC calculated using all best values equals $5,000, while EFC calculated using reported values equals $4,500. Thus, the AGI error leads to a need error of $500. While the EFC calculated using reported values equals $4,500, the EFC value used and reported by the institution equals $3,000. For study purposes, the best EFC would then be equal to $3,500 = (($5,000) - ($4,500)) + $3,000.

We used the same need analysis system used by the institution for the nearly 94 percent of the cases in which the need analysis system used was CSS, ACT, Pell FC, or SAI. For the remaining cases, we used the next closest need analysis system, which, in most cases, yields an EFC within $10 of the EFC generated using the less frequently used system.

2.4.2 Pell Grants, Other Known Aid, GSL Resource, and Campus-Based Aid

In determining the best Campus-Based award and GSL certification we always use the Pell Grant determined using the best Pell values. This is because Pell is required to be taken into account at the time of Campus-Based packaging or GSL certification and any changes in Pell could significantly affect the remaining need. Best Pell is used in the Campus-Based and GSL error calculations whether or not the student received a Pell award. Pell is required to be counted as a resource by schools whether accepted or not. (See 34 CFR 674.14(d), 675.14(d), 676.14(d), and USDE Dear Colleague letter #G-86-79 April 1986, p. 4.)

For other known aid, however, the amount reported was used in best award computation. This is because other known aid consists of non-Title IV aid for which we have no means to calculate what changes, if any, would be made as a result of changes in application values. Another aid error can occur, however, if an institution fails to include the amount reported in calculating need or certification.

If Campus-Based aid is packaged after GSL (this determination is made based on questions in the SRA and the timing of award amounts), then the best value of the GSL resource is considered in determining Campus-Based need. We will assume that a GSL is first used to offset the family contribution to the extent possible and that only the amount remaining is considered as a resource for Campus-Based award. The "best" GSL resource is the minimum of the GSL award actually received by the student and the determination of "best" GSL need for that student; for students with

AGI's under $30,000, the best EFC is subtracted from this amount to arrive at the best GSL resource. Defining best GSL resource in this manner avoids double counting of the error associated with a given case and prioritizes the aid in the same manner used by the institution.

If GSL is awarded after Campus-Based aid is packaged, then the best value for Campus-Based aid should be subtracted from cost in determining need for the GSL program. Best Campus-Based resource equals the minimum of the amount of Campus-Based aid awarded and best Campus-Based need. This prevents capturing in GSL certification error an error already attributed to the Campus-Based programs.

2.4.3 Campus-Based Distributional Error Calculation

As we have already indicated, for distributional error we estimated the payment consequences of all need changes, not only those that fall below award. These payment consequences measure the anticipated redistribution of funds if packaging guidelines used by the institution were followed for best need. We used two types of measures in our formula for the calculation of payment error. First, we looked at the initial proportion of total aid represented by each of the Campus-Based programs for each student. We retained these proportions in our repackaging of aid. Second, we included several questions in the IQ to allow us to replicate institutional packaging practices and constraints. We selected nine of the most frequently applied general practices and constraints for use in repackaging. (None of the other questions yielded any meaningful data. Appendix E contains more information on packaging constraints.) Five of the nine we selected applied to the three Campus-Based programs and four applied to all aid, by undergraduate or graduate status. The four packaging constraint questions asked concerning all aid, for undergraduates and graduates, respectively, were:

- Limit total award to ____% of need
- Limit total award to $____
- Limit awards to students with at least $____ of need, and
- Always have $____ of unmet need.

The five constraints that institutions were asked if they place on each of the three Campus-Based awards were:

- Maximum EFC
- Maximum dependent parent's AGI
- Maximum independent student's AGI
- Minimum award, and
- Maximum award.

For each question answered "yes," the institution was asked the dollar amount or percent applicable. The repackaging measure applied these constraints to students with need error, with one general exception. If the institution made an exception to a general constraint in its original package, we did not apply that constraint in our repackaging.

3.0

AGGREGATE OR OVERALL ERROR

In this chapter we present and discuss the aggregate results for the following five measures or estimates of error:

- Pell Grant Program-Wide Payment Error, 1985-86 and 1982-83
- Campus-Based Programs Need Error, 1985-86 and 1983-84
- Awards in Excess of Need in the Campus-Based Programs, 1985-86 and 1983-84
- Distributional Error in the Campus-Based Programs, 1985-86 versus 1983-84; and
- GSL Program Certification Error, 1985-86 and 1983-84.

For each of these errors we report the overall dollar value of the error, the percentage of cases with error, and the average amount of error for cases with error. Payment errors in the Pell Grant program are reported in terms of overawards and underawards. Need changes in the Campus-Based programs are separated by whether need was overstated or understated. In addition, error estimates from the previous studies are discussed relative to the current study.

3.1 KEY FINDINGS, RESULTS, AND CONCLUSIONS

In the following section we present the key findings with respect to aggregate and overall error in the Pell Grant and Campus-Based programs and the GSL certification process. These key findings are presented in Exhibit 3-1.

PELL GRANT PROGRAM	*1985 -86*
Percentage of Total Program Funds Awarded in Error	21
Percentage of Recipients With Error	54
Absolute Error ($ Millions)	763

CAMPUS-BASED PROGRAMS	*1985 - 86*
Percentage of Recipients With Error	77
Absolute Need Error ($ Millions)	1,068
Awards in Excess of Need ($ Millions)	265
Absolute Distributional Error ($ Millions)	574

GSL PROGRAM	*1985 - 86*
Percentage of Certifications With Error	20
Total Overcertifications ($ Millions)	920*

Figures calculated using a ± $50 tolerance.

** Due to a revision in the estimate of total GSL loan volume, the estimate of certification error should be reduced by approximately 10 percent.*

EXHIBIT 3-1.
KEY FINDINGS FOR THE PELL GRANT,
CAMPUS-BASED AND GSL PROGRAMS, 1985-86

Pell Grant Program

- Approximately 54 percent of the Pell Grant recipients have errors which resulted in changes in award and averaged $502 per occurrence.[1]

- Absolute program-wide payment error totals $763 million and represents 21 percent of the total program funds awarded. (Absolute error includes both under- and overawards, whereas net error allows overawards to offset underawards.)

- Net error averages $267 per student with error and totals $407 million in payment error.

Campus-Based Programs

- Absolute need error totals $1,068 million.

- Seventy-seven percent of the Campus-Based recipients have errors that led to need changes. Fifty percent have need decreases that average $1,236 per occurrence while 28 percent have need increases at an average of $799.

- Awards in excess of need occur in 23 percent of the cases and results in $265 million in error.

- Distributional error represents $574 million.[2]

GSL Program

- In the GSL program 20 percent of the certifications have errors.

- Overall errors (i.e., overcertifications) represent $920 million, at an average of $1,306 per occurrence and results in a cost to the Federal Government ranging from $264 million to $518 million.[2]

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[1] See Chapter 2 of this report for complete explanations of error definitions.

[2] After the error estimates and their standard errors were computed, an updated estimate of total GSL loan volume was made available by ED. Since a ratio adjustment was used to fix the estimated total population loan volume based on our sample to the value of ED's estimate, some of the GSL figures must be adjusted accordingly. This revision will affect estimates of population totals and frequencies, as well as the standard errors associated with these. Each of these should be reduced by about 10 percent. Estimates of means and percents are not affected, nor are coefficients of variation for any estimate.

3.2 PELL GRANT PROGRAM-WIDE PAYMENT ERROR, 1985-86 AND 1982-83

In the Pell Grant program, awards can be made in error if the student is deemed to satisfy categorical criteria which he does not, in fact, meet, or if the student's eligibility is inaccurate due to errors in application data, or if the institution miscalculates the student's costs, enrollment status, or award. An overaward or underaward occurs whenever values used by the institution to calculate a student's eligibility are different from the best values developed using the data. In Table 3-1 we provide the summary error data for the Pell Grant program for 1985-86.

Absolute error (which considers both student and institutional errors) averages $502 per recipient with error. Absolute error totals $763 million, which constitutes 21 percent of total program funds awarded, and affects 54 percent of Pell recipients. Net error (allowing overawards to be offset by underawards) is estimated to be $407 million, or 11 percent of the dollars awarded.

Overawards in the Pell Grant program are more than twice as prevalent (37 percent of recipients) as underawards (18 percent of recipients). Overawards have a mean error per recipient with error almost one-third larger than underawards, an average of $564 for overawards and $369 for underawards. More errors are made that are in favor of the student, i.e., they receive more money than they should.

TABLE 3-1
A SUMMARY OF ERRORS* IN THE PELL GRANT PROGRAM, 1985-86

Academic Year 1985-86

Error Definition	Program-wide Error		Percentage of Recipients with Error(%)	Mean Error per Recipient with Error
	($ Millions)	(% of $ Awarded)**	Percent	Dollars
Absolute Error	763	21	54.4	502
Net Error	407	11	54.4	267
Overaward Error	585	16	37.1	564
Underaward Error	178	5	17.5	369

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* Using a ± $50 tolerance

** Amount of Pell awards is $3.6 billion for 1985-86

We had a general expectation of a slight decrease in error estimates based on the previous Pell study results. This expectation was in part due to changes in mandated Pell validation. In 1982-83 the focus was on low error items (e.g., adjusted gross income) and consequently many error prone items were not routinely validated and discrepancies remained in them. Validation for 1985-86 focused on high error items (e.g., number in college). This may explain why the percent of program funds awarded in error decreased slightly from the earlier study, i.e., more error was discovered earlier in the process and corrected.

The error estimates for Stage Two and for Pell Stage Three are presented in Table 3-2. The estimates have not changed significantly between studies, particularly given the $1.2 billion increase in average program funds and changes in Pell validation. In both studies, there were approximately 50 percent of Pell recipients with error. The percentage of program funds awarded in error were also very similar; approximately one fourth were awarded in error in each of the studies. Although the differences in error estimates between the two studies are not significant, certain errors have dropped slightly. In spite of this, the percentage of recipients with a Pell error has increased.

3.3 CAMPUS-BASED PROGRAMS PROGRAM-WIDE ERROR, 1985-86 AND 1983-84

A student's need for Campus-Based assistance is defined as the difference between the cost of attendance and available resources, where resources include the expected family contribution (EFC) and other aid. The EFC is determined by student and parental income and expenses, net

TABLE 3-2
APPROPRIATE COMPARISONS BETWEEN THE 1982-83 and 1985-86 PELL GRANT PROGRAM ERROR ESTIMATES*

	Program-wide Error ($ Millions)	Percentage of Dollars Awarded	Percentage of Recipients with Error
Academic Year 1982-83[1]	591 (605**)	25 (25**)	49.7 (62.7**)
Academic Year 1985-86[2]	763	21	54.4

* Using a ± $50 tolerance

** These are error estimates using a ± $2 tolerance as originally done in the Pell Stage Three study.

[1] Amount of Pell awards was $2.4 billion for 1982-83

[2] Amount of Pell awards was $3.6 billion for 1985-86

assets, and other measures of family finances. A need error or change occurs whenever values used by the institution to calculate a student's need are different from the best values developed using the data. Table 3-3 provides a summary of the following types of errors in the Campus-Based programs for 1985-86: absolute and net need error (including over- and understatement of need), awards in excess of need, and distributional error. Estimates of error in the Campus-Based program do not result in costs to the government since the portion of funds allocated to institutions that were distributed in error would be redistributed to other recipients. We will discuss each type of error separately in the following paragraphs.

In Stage Two, we recalculated need using "best" student and institutional values. The frequency and magnitude with which recalculated need differed from reported need was measured and aggregated across sampled cases to estimate program-wide **need error**. This is an important intermediate step in any analysis of payment consequences and is, in itself, a measure of program delivery system quality. Table 3-3 provides a summary of absolute and net need error. The results indicate that absolute need error, which includes over- and understatements of need, totals $1,068 million, averages $1,080 per recipient with error, and occurs in 77 percent of the cases. Net need error, which allows overstatements of need to be offset by understatements of need, totals $504 million, occurs in 77 percent of the cases, and averages $509 per case with error.

TABLE 3-3
A SUMMARY OF ERRORS* IN THE CAMPUS-BASED PROGRAMS
1985-86

Academic Year 1985-86

Error Definition	Program-wide Error ($ Millions)	Percentage of Recipients with Error	Mean Error per Recipient with Error($)
Absolute Need Error	1,068	77.2	1,080
Overstatements of Need	786	49.7	1,236
Understatements of Need	282	27.6	799
Net Need Error	504	77.2	509
Awards in Excess of Need	265	22.5	921
Absolute Distributional Error	574	69.1	649
Distributional Overawards	395	44.7	690
Distributional Underawards	179	24.4	594
Net Distributional Error	216	69.1	169

* Using a ± $50 tolerance

Discrepancies between data originally used to estimate need and best values can result in either increases or decreases in need. These, in turn, produce an **understatement or overstatement** of need, respectively. Table 3-3 provides the summary statistics on overstatement and understatement of need. The results indicate that approximately three-fourths (77 percent) of students have need errors. Overstatements of need are more prevalent (almost 50 percent of cases) than understatements of need (28 percent of cases). In addition, overstatements of need result in $786 million in program-wide error, well over twice the amount that understatements account for in program-wide error ($282 million). Understatements also result in a far lower mean error per recipient with error than overstatements, $799 and $1,236, respectively. These are comparable to results from Stage One.

For the Campus-Based programs, if true need falls below award, it is a regulatory violation. Overall **awards in excess of need** were calculated as best need minus actual award for the cases in which need falls below award. Table 3-3 provides the figures for awards in excess of need. The results show that overall awards in excess of need error totals $265 million, and averages $921 for the 23 percent of the cases in which it occurs. These results suggest that approximately one-fourth of all students have awards in excess of need.

For the three Campus-Based programs (CW-S, SEOG, NDSL), **distributional error** estimates the potential impact of all need changes by repackaging Campus-Based awards using unique institutional packaging parameters for students at each institution. The recalculated repackaged award (using all best values) is subtracted from the actual award and the resulting figure is distributional error. Distributional error for the current and 1983-84 study is summarized and presented in Table 3-3. The results indicate that overall distributional error totals $574 million, and averages $649 for the 69 percent of the cases in which it occurs.

In reviewing the error estimates for the Campus-Based programs from Stage One, the pilot phase of this study, the current error estimates are approximately of the same magnitude. For instance, in the pilot phase approximately 70 percent of Campus-Based recipients had error that totaled $978 million in absolute error. The current figures are comparable to these results, and are the first true estimates of error in the Campus-Based programs based on the methodology tested in the pilot phase of this study. The slight increase in error in Stage Two may be attributed to an underrepresentation of error in Stage One due to use of an untested methodology.

3.4 GSL PROGRAM-WIDE CERTIFICATION ERROR

GSL certification error occurs whenever the amount certified exceeds the difference between cost of attendance and the resources available to meet these expenses. Available resources would include known aid from Pell, Campus-Based, and other programs and expected family contribution for student cases with adjusted gross incomes over $30,000. Table 3-4 presents a summary of overall certification error. The results indicate that overall error totals $920 million and occurs in 20 percent of the cases and averages $1,306 per case with error.

TABLE 3-4
A SUMMARY OF OVERALL CERTIFICATION ERRORS* IN THE GSL PROGRAMS
1985-86 and 1983-84

Overall Certification Error

Error Definition	Program-wide Error ($ Millions)**	Percentage of Recipients with Error	Mean Error per Recipient with Error($)
Academic Year 1985-86	920	20.1	1,306
Academic Year 1983-84	441	10.9	1,215

* Overcertifications using a $50 tolerance

** Due to a revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

Error estimates from Stage One in the GSL program are considerably different than those estimates from the current study as indicated in Table 3-4. There was a total of $441 million in certification error which averaged $1,215 for the 11 percent of the cases in error. However, a significant methodological change was implemented for Stage Two; Expected Family Contribution (EFC) error was measured and had a significant impact on certification error (as discussed in Chapter 5). Institutions can miscalculate EFC in one of three ways:

- Different EFC's are used for Campus-Based and GSL
- GSL tables are used improperly, or
- Incorrect determination of AGI.

In addition, there was an increase of 6 percent of students with AGI's greater than $30,000. Students with AGI's of $30,000 or more are required to report more application items, which increase the likelihood of additional error.

In order to estimate error in the GSL program, we focused on the point in the delivery system that institutions certify students' eligibility for loans and determine the maximum loan amount. However, because not all students borrow the maximum amount, and because students pay these loans back over a payment period of up to 10 years, GSL overcertifications are not an accurate estimate of cost to the government. ED is responsible only for interest payments while these students are in school or other deferment periods, the special allowance subsidiary to lenders, and for the remaining balance on defaulted loans. Since some of these costs are tied to the interest paid on U.S. Treasury notes (T-Bills), costs vary substantially as the rate of interest rises and falls. On average, costs per dollar loaned ranged from $.342 with T-Bills at 5.5 percent to $.676 with T-Bills at 10 percent. These figures were provided by the Department of Education and represent their estimate of the low and high range of net cost per dollar loaned. ED's best estimate of costs is $.437 per dollar loaned based on a T-Bill rate of 6.6 percent. In order to estimate the costs to the government of GSL overcertification, we used the average rate of borrowing per dollar of certification (84 percent) in our sample to translate overcertifications to loan amounts and multiplied those amounts by the cost ranges and produced the following estimates.

Using this procedure, we estimate that the costs that will be incurred by ED over the life of this group of loans due to overcertification range from a low of $264 million to a high of $518 million. Use of ED's best estimate of per dollar loan costs results in an estimate of $338 million.

The aggregate error data discussed in this chapter are analyzed further in the following chapter.

4.0

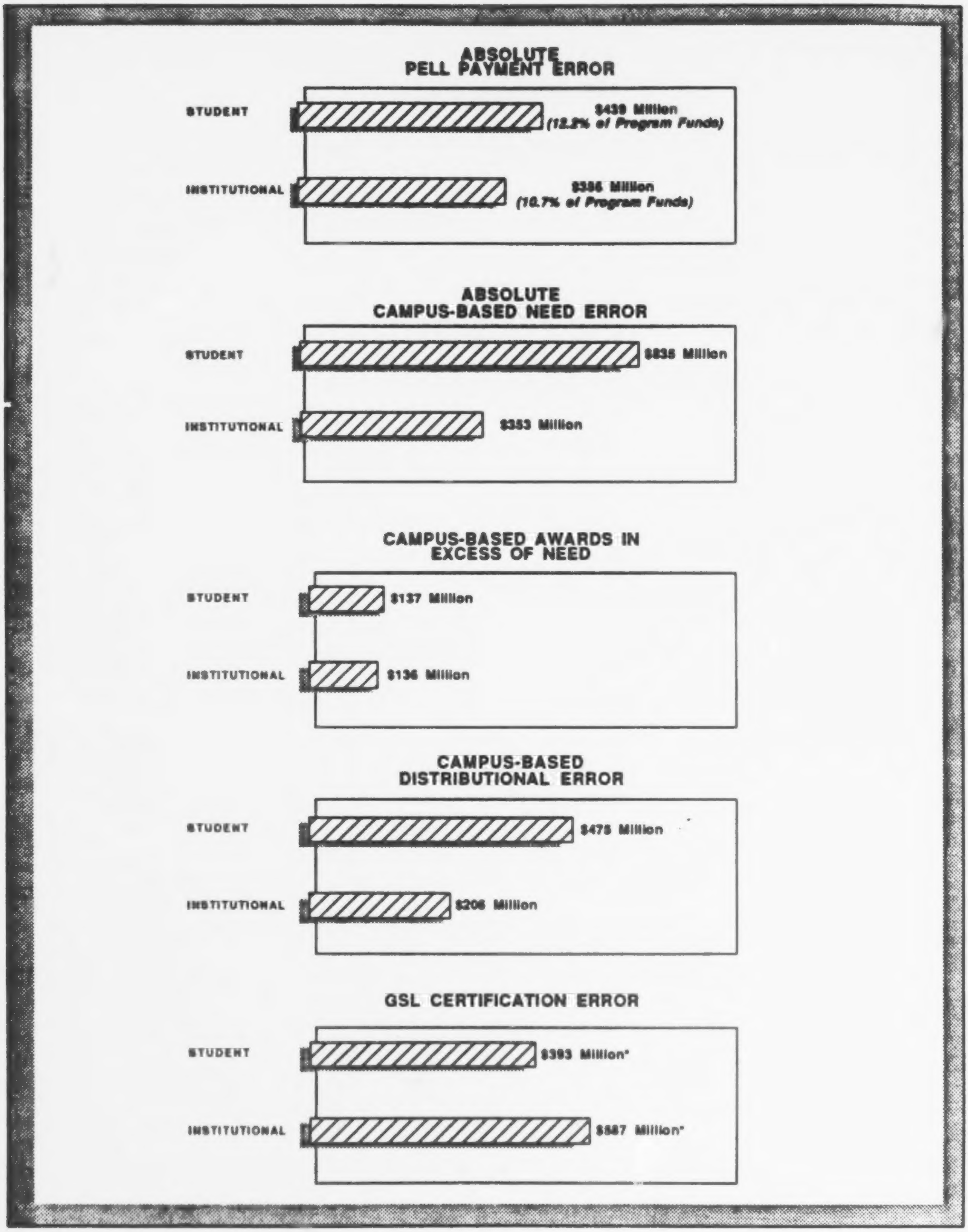
STUDENT AND INSTITUTIONAL ERRORS IN THE TITLE IV PROGRAMS

This chapter presents the error estimates for student and institutional errors in each of the Title IV programs. Student error is the result of recipients providing inaccurate data at the time of and subsequent to application. This decomposition is silent on whether the error was conscious or inadvertent or whether the data was correct at the time and subsequently changed. Institutional error is the result of institutions using incorrect data in awarding, processing, or disbursing aid and includes errors that affect student need, "categorical" eligibility, disbursements, and required procedures (mostly collection of documentation).

These data are provided for the Pell Grant program in terms of absolute payment error decomposed into student and institutional errors. For the Campus-Based programs, student and institutional errors are presented by need error, awards in excess of need error, and distributional error. Finally, GSL certification error is also decomposed into student and institutional error.

4.1 KEY FINDINGS, RESULTS, AND CONCLUSIONS

Exhibit 4-1 summarizes and presents the major findings of student and institutional error amounts and rates. As is shown in these exhibits, student errors are greater than institutional errors in both the Pell and



* Due to a revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

EXHIBIT 4-1. LEVELS OF STUDENT AND INSTITUTIONAL ERROR IN THE 1985-86 ACADEMIC YEAR

Campus-Based programs. Student errors are larger for the Pell and Campus-Based programs both in terms of program-wide dollars in error, and the percentage of cases in error. The GSL program, however, exhibits larger institutional errors (both program-wide dollars in error, and percentage of cases in error) than student errors.

Given the limitations in making cross-year comparisons for the Campus-Based and GSL programs (as discussed in the previous chapter), general cross-year comparisons will be made only for the Pell error estimates.

4.2 STUDENT AND INSTITUTIONAL ERROR IN THE PELL GRANT PROGRAM

A decomposition of absolute payment error is provided in Table 4-1. In further analyzing the figures for overall payment error (overpayments combined with underpayments) the results indicate that:

- Student error totaled $439 million, with an average of $486 for the 32 percent of cases in which it occurred.
- Institutional error totaled $386 million, with an average of $460 million for the 30 percent of cases in which occurred.

These figures indicate that payment error in the Pell Grant program affects approximately one-half of all students, with students contributing a larger share of error than institutions. These results are similar to the 1982-83 study as presented in Table 4-2, but represent a slight increase in the percentage of students with Pell Grant payment error.

TABLE 4-1

PAYMENT ERROR* IN THE PELL GRANT PROGRAM BY STUDENT AND INSTITUTIONAL ERRORS, 1985-86

Source of Error	Program-wide Payment Error		Percentage of Recipients With Error	Mean Error per Recipient with Error($)
	($ Millions)	(% of $ Awarded)		
Absolute Student Error	439	12	32.3	486
Student Over-awards	356	10	23.2	547
Student Under-awards	84	2	9.1	328
Net Student Error	272	8	32.3	300
Absolute Institutional Error	386	11	30.0	460
Institutional Overawards	260	7	18.4	504
Institutional Underawards	126	4	11.6	390
Net Institutional Error	134	4	30.0	158

* Using a ± $50 tolerance

The amount of student error in the Pell program for the current study and the 1982-83 Pell Stage Three study are presented in Table 4-2. It is apparent that, in terms of student error, there has been a slight change between the studies. The percentage of program funds awarded in error is 12 percent for the current study - a small decrease (1 percentage point) from the Pell Stage Three study. The percentage of recipients with student error also remained very similar - approximately one-third of Pell recipients have student error for both the current and previous studies.

Table 4-2 presents the error estimates for institutional payment error in the Pell program from the Pell Stage Three and the current study. The percentage of cases with error shows an increase of approximately 5 percentage points from the previous study. The percent of program funds awarded in error decreased slightly because the size of the Pell program increased at a faster rate than the amount of institutional errors.

Changes in the methodology, student and institutional characteristics, and the programs themselves should be considered when interpreting the data from the two studies as discussed in Chapter 3.

4.3 STUDENT AND INSTITUTIONAL ERROR IN THE CAMPUS-BASED PROGRAMS

In this section we present the errors made by students (and their parents) and institutions in the Campus-Based programs. These errors are presented by:

TABLE 4-2

PELL GRANT PROGRAM ABSOLUTE ERROR ESTIMATES*, 1985-86 AND 1982-83

Student Error

	Program-wide Payment Error		
	($ Millions)	(% of $ Awarded)	Percentage of Recipients with Error
Academic Year 1985-86	439	12	32.3
Academic Year 1982-83	318 (328**)	13 (14**)	30.9 (39.4**)

Institutional Error

	Program-wide Payment Error		
	($ Millions)	(% of $ Awarded)	Percentage of Recipients with Error
Academic Year 1985-86	386	11	30.0
Academic Year 1982-83	315 (321**)	13 (13**)	24.9 (33.5**)

* Using a ± 50 tolerance.

** These are the error estimates using a ± $2 tolerance as originally done in the Pell, Stage Three study.

- Need error
- Awards in excess of need error, and
- Distributional error.

4.3.1 Student and Institutional Need Error in the Campus-Based Programs

A need error or change occurs whenever values used by the institution to calculate a student's need are different from the best values developed using the data collected in the study. Table 4-3 decomposes need error into student and institutional errors. The results indicate the following:

- Student error totaled $835 million, with an average of $1,012 for the 65 percent of cases in which it occurred.
- Institutional error totaled $353 million, with an average of $877 for the 32 percent of cases in which it occurred.

Student need error affects almost twice as many recipients as institutional need error (65 percent versus 32 percent), which is a function of how need error is defined. Mean error per recipient with error is $1,012 for student error and $877 for institutional error, again student error is greater than institutional error. Program-wide error attributable to student error was over two times as high as institutional ($835 million versus $353 million). Clearly, student need error contributes a much larger percentage of error to net need error than institutional need error.

TABLE 4-3

NEED ERROR* IN THE CAMPUS-BASED PROGRAMS BY STUDENT AND INSTITUTIONAL ERRORS, 1985-86

Source of Error	Program-wide Error ($ Millions)	Percentage of Recipients With Error	Mean Error per Recipient with Error($)
Absolute Student Need Error	835	64.5	1,012
Student Overstatements of Need	619	42.4	1,139
Student Understatements of Need	216	22.0	767
Net Student Need Error	403	64.5	488
Absolute Institutional Need Error	353	31.5	877
Institutional Overstatements of Need	227	16.9	1,049
Institutional Understatements of Need	126	14.6	677
Net Institutional Need Error	100	31.5	249

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* Using a ± $50 tolerance

4.3.2 Student and Institutional Awards in Excess of Need in the Campus-Based Programs

Awards in excess of need occur with overstatements, where best need falls below the award. The motivation for this type of definition comes from a strict interpretation of Federal regulations. According to the regulations, an overpayment or overaward can occur only when the student is awarded aid in excess of need. Awards in excess of need may be attributable to either student or institutional error. We present awards in excess of need error by student and institutional errors in Table 4-4. The results indicate the following:

- Student error totals $137 million, with an average of $844 for the 13 percent of cases in which it occurs.
- Institutional error totals $136 million, with an average of $793 for the 13 percent of cases in which it occurs.

Student error contributes essentially the same amount of error to awards in excess of need as institutional error; institutional error contributes only $1 million less than student error. Similarly, both student and institutional error affect 13 percent of recipients with awards in excess of need error. These error figures are similar because institutional errors, such as categorical errors, lead to overawards more often than student errors which tend to lead to over- or understatements of need but do not necessarily result in overawards. The mean error per recipient with error is also approximately the same, i.e., student error averages $844 and institutional averages $793, a slight difference of $51 in mean error per recipient.

TABLE 4-4
AWARDS IN EXCESS OF NEED* IN THE CAMPUS-BASED PROGRAMS BY STUDENT AND INSTITUTIONAL ERRORS, 1985-86

Source of Error	Program-wide Awards in Excess of Need Error ($ Millions)	Percentage of Recipients With Error	Mean Error per Recipient with Error($)
Student Error	137	12.7	844
Institutional Error	136	13.4	793

* Using a $50 tolerance

4.3.3 Student and Institutional Distributional Error in the Campus-Based Programs

Distributional error estimates the potential impact of all need changes by repackaging Campus-Based awards using unique institutional packaging parameters for students at each institution. The recalculated award is subtracted from the actual award and the resulting figure is distributional error. Student and institutional distributional error is presented in Table 4-5. The figures presented for distributional error are absolute, therefore understatements are not offset by overstatements. The results indicate the following:

- Student error totals $475 million, with an average of $613 for the 61 percent of the cases in which it occurs.
- Institutional error totals $206 million, with an average of $590 for the 27 percent of cases in which it occurs.

Student error affects more than twice as many recipients with distributional error (61 percent) as institutional error (27 percent). Similarly, program-wide distributional error totals $475 million for student error, more than twice the total amount of institutional error, which totals $206 million. Mean error per recipient with distributional error is the only measure that is approximately the same, with an average of $613 for student error and $590 for institutional error, a difference of only $23 per recipient. These figures are similar in magnitude to need errors discussed earlier because distributional error calculates the potential impact of all need changes.

TABLE 4-5
DISTRIBUTIONAL ERROR* IN THE CAMPUS-BASED PROGRAMS BY STUDENT AND INSTITUTIONAL ERRORS, 1985-86

Source of Error	Program-wide Distributional Error ($ Millions)	Percentage of Recipients With Error	Mean Error per Recipient with Error($)
Absolute Student Error	475	60.5	613
Student Overawards	301	37.0	636
Student Underawards	174	23.5	577
Absolute Institutional Error	206	27.3	590
Institutional Overawards	125	15.5	632
Institutional Underawards	81	11.9	534

* Using a ±$50 tolerance

4.4 STUDENT AND INSTITUTIONAL ERROR IN THE GSL PROGRAM

In this section we present the errors made by students (and their parents) and institutions in the GSL certification process. A GSL certification error occurs whenever the amount certified exceeds the difference between the cost of attendance and the resources available to meet these expenses. Table 4-6 provides the figures for student and institutional error for the GSL program. The results indicate the following:

- Student error averaged $1,065 for the 11 percent of recipients with error, resulting in a total of $393 million.
- Institutional error averaged $1,238 for the 14 percent of the cases in error, resulting in a total of $587 million.

In the Pell and Campus-Based programs, student error either exceeded institutional error or was approximately equal (with student error in each measure still slightly higher). In the GSL program, institutional certification error is higher for all measures than student error. Institutional error affects 14 percent of the certifications with error, while student error affects 11 percent. Institutional error accounts for $587 million in program-wide error; approximately one-third more than student error which accounts for $393 in program-wide error. The mean error per certification with error was also about $175 larger per certification with error for institutional error ($1,238) than student error ($1,065).

TABLE 4-6

CERTIFICATION ERROR* IN THE GSL PROGRAM BY STUDENT AND INSTITUTIONAL ERRORS, 1985-86

Error Definition	Program-wide Error ($ Millions)**	Percentage of Certifications with Error	Mean Error per Certification with Error($)
Student Error	393	10.6	1,065
Institutional Error	587	13.5	1,238

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* Overcertifications using a $50 tolerance

** Due to revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

5.0

SIGNIFICANT ERRORS IN EACH OF THE TITLE IV PROGRAMS

This chapter focuses on error of the most detailed level. Error is decomposed beyond the student/institutional errors presented in Chapter 4. As error is further decomposed, the measures of error come closer to the roots of error. Student error measures the component of overall error attributable to student misreporting. Institutional error measures the component of overall error attributable to institutional inaccuracies. These errors were further decomposed to identify specific components of student and institutional error. Student errors caused by misreporting of individual or groups of application items were measured. Institutional errors caused by specific institutional inaccuracies were also measured. Each application item was tested for its contribution to student error. While each application item's contribution is tabulated in Appendix C, a subset containing the most significant items is discussed in this Chapter. Similarly, only those institutional inaccuracies to which significant institutional error is attributable are presented in Chapter 5.

Examination of the significant errors in each of the programs led to the following findings:

- Errors in other non-taxable income, home equity and dependency status contribute the most to net student error in the Pell Grant program.
- Enrollment status error was the most frequent institutional error in the Pell Grant program.
- Student's expected taxable and non-taxable income contribute the most to net student need error in the Campus-Based programs.

- Errors in factoring Pell awards into the Campus-Based need formulation contributed to a large portion of the institutional error.
- Crossing the $30,000 family AGI threshold was associated with a large portion of GSL student certification error.
- The failure to use the GSL tables properly had the largest impact on institutional GSL certification error.

A comparison of Stage Two findings regarding significant errors to other studies reveals:

- The relative ranking of application items by net contribution to Pell student error is fairly consistent over time.
- The ranking of institutional errors in the Pell Grant program also remained consistent between years.
- Student's prospective income items topped the list of student errors in the Campus-Based programs in both Stage One and Stage Two.
- Number in college and home equity were ranked significantly higher in Stage Two than in Stage One.
- Institutional errors in the Campus-Based programs remained consistent.
- Family AGI error is a consistently significant component of GSL student certification error.
- Among GSL institutional errors, the frequency of errors in factoring Pell awards increased while cost of attendance errors decreased.

These findings are discussed in more detail in the sections which follow.

5.1 SIGNIFICANT ERRORS IN THE PELL GRANT PROGRAM

In this section we present components of error in the Pell Grant program. In Chapter 4, overall Pell error was decomposed into student error and institutional error. This section will further decompose error into the marginal effects of misreporting application items on student error and of specific mistakes made by institutions on institutional error. This deeper decomposition allows us to get closer to the root or source of error, thereby facilitating identifying corrective actions.

5.1.1 Student Error

This subsection examines the misreporting of application items by Pell recipients. Rates and average discrepancies are presented for selected application items for independent and dependent students. Rates and amounts of marginal error associated with selected individual application items and selected groups of application items are presented and discussed. Finally, individual application items are ranked by net program-wide marginal error and these ranks are compared to the ranks from the 1982-83 study (Pell Stage Three).

Student Application Item Discrepancies

Student error can occur whenever the value reported by the student differs from the "best" value for any application item. Tables 5-1 and 5-2 present the rates and amounts of discrepancies in selected application items for independent and dependent recipients respectively. The tables dichotomize discrepancies into those for which reported values favor the applicant when compared to the best values and those for which reported values are against the applicant when compared to the best values. Both tables use a $50 tolerance for dollar-valued items and exclude dependency switchers. For some items, the statistics are further

TABLE 5-1
RATES AND AMOUNTS OF DISCREPANCY* IN SELECTED STUDENT APPLICATION ITEMS FOR INDEPENDENT STUDENTS IN THE PELL GRANT PROGRAM, 1985-86

Selected Application Item	No Discrepancy	Reported Values Against Applicant		Reported Values Favoring Applicant	
	Percent	Percent	Mean	Percent	Mean
Adjusted Gross Income	86.8	5.1	1811	8.0	9209
Student's Earned Income	83.2	4.3	872	12.6	3822
Spouse's Earned Income	93.7	3.6	2220	2.7	4480
U.S. Income Tax	87.4	8.6	401	3.9	301
Cash, Checking, and Savings	78.2	2.9	724	18.9	349
Number in College	92.6	4.0	N/A	3.3	N/A
Household Size	86.6	8.1	N/A	5.4	N/A
Home Equity	91.0	2.0	5867	7.0	6372
None Reported	96.8	0	--	3.2	11546
Positive Value Reported	46.3	17.4	5867	36.3	2764
Other Nontaxable Income**	75.3	0	--	24.7	1608
None Reported	73.2	0	--	26.8	1623
Positive Value Reported	84.5	0	--	15.5	1503

* Using a ± $50 tolerance and excluding dependency status switchers.

** Other nontaxable income includes child support, welfare benefits, unemployment compensation, worker's compensation, and married couple deduction among other items.

TABLE 5-2
RATES AND AMOUNTS OF DISCREPANCY* IN SELECTED APPLICATION ITEMS FOR DEPENDENT STUDENTS IN THE PELL GRANT PROGRAM, 1985-86

Selected Application Item	No Discrepancy	Reported Values Against Applicant		Reported Values Favoring Applicant	
	Percent	Percent	Mean	Percent	Mean
Adjusted Gross Income	89.8	4.7	2768	5.4	5147
Father's Earned Income	78.5	11.6	5586	9.9	6486
Mother's Earned Income	85.6	7.1	2197	7.3	4039
U.S. Income Tax	78.9	14.9	789	6.1	752
Cash, Checking, and Savings	69.5	8.1	5628	22.4	953
Number in College	83.6	7.3	N/A	9.1	N/A
Household Size	70.4	9.8	N/A	19.8	N/A
Student's Base-Year Income	63.1	14.1	664	22.9	2314
Student's Expected Income	35.8	17.8	1084	46.4	1733
Home Equity	59.1	8.1	6679	32.8	14,399
None Reported	86.8	0	--	13.2	29,491
Positive Value Reported	40.2	13.7	6679	46.2	11,436
Other Nontaxable Income**	83.8	0	--	16.2	1642
None Reported	85.3	0	--	14.7	2406
Positive Value Reported	81.5	0	--	18.5	789
Student's Net Assets	70.4	0	--	29.6	342
None Reported	71.8	0	--	28.2	323
Positive Value Reported	66.4	0	--	33.6	386
Medical Expenses	78.1	15.3	932	6.6	699
None Reported	92.6	7.4	1107	0	--
Positive Value Reported	66.8	21.5	885	11.7	699

* Using a ± $50 tolerance and excluding dependency status switchers.

** Other nontaxable income includes child support, welfare benefits, unemployment compensation, and married couple deduction among other items.

divided to show differences in discrepancy between students who reported a value of zero and those who reported a positive value. This is of interest in an item such as home equity because it identifies verified home owners who reported no home equity.

Table 5-1 lists the major application items which pertain to independent students and for which significant discrepancy was observed. Other non-taxable income has the highest aggregate discrepancy rate for independent Pell recipients. Nearly one-fourth of all independent recipients under-reported other non-taxable income by over $1600. Over one-fourth of the independent recipients who reported no other non-taxable income actually received an average of over $1600 in other non-taxable income. (Other non-taxable income includes child support, welfare benefits, unemployment compensation, worker's compensation, and married couple deduction among other items.) On the aggregate level, only 9 percent of independent students misreported home equity. Of those who reported a positive home equity, however, over half were discrepant by more than $50 and understatements were twice as frequent as overstatements. Table 5-1 excludes the 6.3 percent of recipients who reported that they were independent, but in fact were dependent.

Table 5-2 lists the major application items which pertain to dependent students and for which significant discrepancy was observed. Student's expected income was discrepant more often than any other application item for dependent recipients. Nearly two-thirds of the dependent recipients failed to estimate their expected income within $50 of the best value. Nearly half of all dependent recipients underestimated their expected income by an average of over

$1700. The Pell formula uses the expected income only when a dependent student expects to earn less than 60 percent of his or her base-year income. Home equity is misreported by over 40 percent of dependent recipients. Home equity was understated about four times as often as it was overstated. Adjusted gross income had a low discrepancy rate relative to other application items for dependent students. Table 5-2 excludes the 1.2 percent of recipients who reported that they were dependent but in fact were independent.

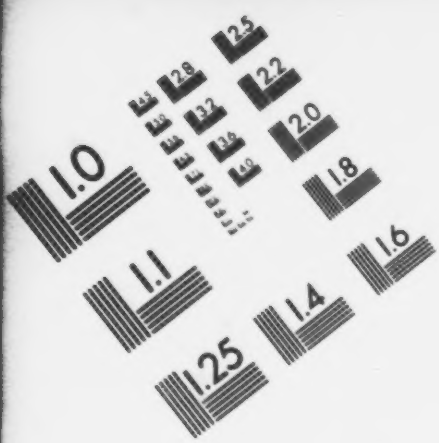
Marginal Errors Associated with Individual Application Items

While item discrepancy measures the relative accuracy in reporting of various data items, it does not adequately explain the effects of misreporting on student error. Application item values are mapped into the Student Aid Index (SAI) by the Pell Grant formula. The award is then determined as a function of SAI, cost of attendance and enrollment status. Of the three parameters determining the award, only SAI is affected by changes in student application items values. A unit change in any application item does not generally lead to a proportional change in award nor in SAI. The SAI formula is not a continuous linear function of the application items, but rather an algorithm which binds together a series of calculations with conditional statements. The sensitivity of the SAI algorithm to application items may depend upon the level of the application item and may be controlled by thresholds for some items. For example, assets are protected below a certain level. Marginal error measures the impact of individual application items on error.

To calculate the marginal errors, a baseline award must first be determined using the SAI obtained from applicant reported values and the cost of attendance and enrollment status used by the institution in making the actual award. The marginal award for each application item is then calculated by replacing the reported value for that item with the best value for that item and holding all other values constant. The marginal error for an application item is the difference between the baseline award and the marginal award calculated for that item. The marginal error for an application item measures the error removed if that item were independently verified. Note that the sum of marginal errors across all data items does not equal the estimated total student error. This is because the sum of the errors removed by independently replacing each reported value with a best value does not equal the error removed by replacing all reported values at once with the respective best values.

Table 5-3 lists rates and amounts of marginal error for selected application items. To illustrate the difference between item discrepancy and marginal error, let us compare statistics for other non-taxable income between Table 5-1 and Table 5-3. In Table 5-1, 24.7 percent of independent recipients understated their other non-taxable income by an average of $1608. Table 5-3 shows that this level of misreporting led to an average overaward of $386 in 9.3 percent of independent recipients.

The application items are listed in descending order of net program-wide error. Other non-taxable income has the largest net



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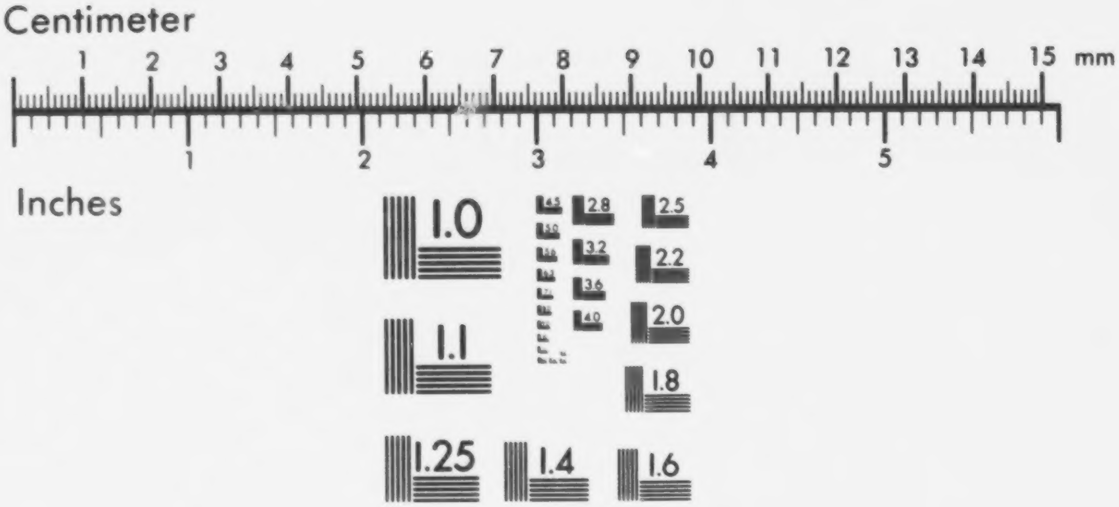
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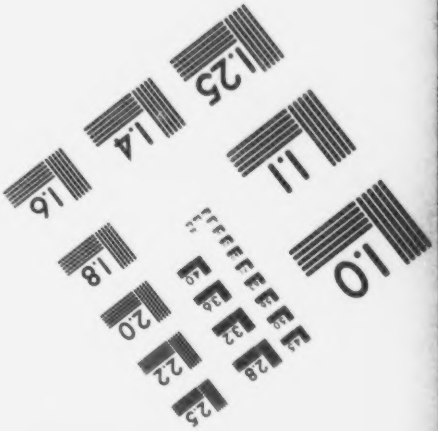

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TABLE 5-3
INDIVIDUAL APPLICATION ITEMS HAVING A SIGNIFICANT IMPACT ON PROGRAM-WIDE PELL STUDENT ERROR*, 1985-86

Item	NO ERROR (Within $50)	UNDERAWARDS			OVERAWARD			NET ERROR
	Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)	Total ($ Millions)
Other Nontaxable Income**	92.9	0	—	—	7.1	378	75.1	75.1
Independents	90.7	0	—	—	9.3	386	46.0	46.0
Dependents	94.7	0	—	—	5.2	367	29.1	29.1
Home Equity	93.5	0.8	302	6.6	5.8	439	70.6	64.0
Independents	99.7	0.1	100	0.1	0.2	376	0.9	0.8
Dependents	88.1	1.4	313	6.5	10.5	440	69.7	63.2
Dependency Status***	97.8	0.1	905	3.4	2.1	850	48.8	45.4
Independents	95.7	0.3	905	3.4	4.1	854	44.2	40.8
Dependents	99.6	0	—	—	0.4	815	4.5	4.5
Dependent Student's Assets (Dependent Students Only)	86.3	0	—	—	13.7	172	35.4	35.5
Student's Expected Income (Dependent Students Only)	95.8	0.7	393	4.1	3.4	706	36.7	32.6
Household Size	90.6	2.9	322	26.3	6.5	312	56.2	29.9
Independents	96.8	1.1	566	8.2	2.1	647	17.1	8.9
Dependents	85.3	4.4	270	18.2	10.2	254	39.1	20.9
Adjusted Gross Income	96.6	1.5	286	11.8	1.9	600	32.3	20.6
Independents	96.7	1.8	259	6.1	1.5	649	12.3	6.2
Dependents	96.5	1.2	320	5.7	2.3	573	20.1	14.4
Number in College	95.6	1.5	271	11.2	2.9	367	29.7	18.4
Independents	98.8	0.8	288	2.9	0.4	344	1.8	-1.1
Dependents	92.9	2.1	266	8.3	5.0	368	27.8	19.5

* Using a ± $50 tolerance

** Under the specifications for best values of other non-taxable income, underawards are not possible because documentation could have been missing.

*** If cases with a categorical error were considered eligible, dependency status overawards would increase $3.1 million marginal error. Because of a specification in the best value selection procedure which selected reported values over smaller verified values, there are no underawards for other non-taxable income. This procedure was necessary because recipients report the amount of total non-taxable income yet document the component amounts individually. Therefore, a documented total smaller than the reported amount could have occurred because a recipient could not find documentation for one or more items. While dependency status errors are infrequent, the net program-wide marginal error is the third largest among all application items.

Marginal Errors Associated with Groups of Application Items

The concept of marginal error can also be extended to groups of application items. The baseline award is the same as for individual item marginals. The marginal awards are calculated by replacing reported values with best values for selected groups of application items. For example, marginal income tax item error is calculated by using best values for adjusted gross income, U.S. income taxes, exemptions, income portions, medical deductions, and itemized deductions; and reported values for all other application items.

Table 5-4 lists marginal errors for selected groups of application items. Application items have been logically grouped to represent items that might be verified concurrently. The table shows that if best values for all prospective items (taxable and non-taxable income, household

TABLE 5-4
GROUPS OF APPLICATION ITEMS HAVING A SIGNIFICANT IMPACT ON PROGRAM-WIDE PELL STUDENT ERROR,*
1985-86

Item	NO ERROR (Within $50)	UNDERAWARD			OVERAWARD			NET ERROR
	Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)	Total ($ Millions)
Prospective Income Items	97.5	0.4	353	4.3	2.1	658	38.4	34.1
Independents	99.6	0.1	75	0.1	0.3	184	0.7	0.6
Dependents	95.7	0.7	394	4.1	3.6	689	37.8	33.7
Household Size and Number in College	87.8	4.2	316	37.5	8.0	378	84.1	46.6
Independents	95.7	1.9	455	11.0	2.4	633	19.4	8.4
Dependents	81.1	6.2	281	26.4	12.7	337	64.6	38.2
All Prospective Items	86.2	4.5	318	40.3	9.3	453	117.9	77.6
Independents	95.4	2.0	431	11.1	2.6	590	19.7	8.6
Dependents	78.4	6.7	289	29.2	15.0	432	98.2	69.0
Income Tax Items	91.1	5.8	218	35.0	3.1	425	37.0	2.0
Independents	94.0	3.6	231	10.6	2.4	441	13.5	2.9
Dependents	88.7	7.6	213	24.4	3.7	416	23.5	-0.9
Non-Taxable Income Items	92.5	0.5	408	5.8	7.1	313	61.4	55.6
Independents	92.0	0.2	1108	2.6	7.9	230	23.1	20.5
Dependents	92.8	0.8	272	3.2	6.4	399	38.3	35.1
Asset Items	92.6	1.0	297	8.1	6.4	431	77.0	68.9
Independents	98.7	0.5	150	0.9	0.9	232	2.6	1.7
Dependents	87.5	1.4	339	7.2	11.1	444	74.4	67.2

*Using a ± $50 tolerance

size, and number in college) were known, nearly $160 million in absolute error could be eliminated. Prospective items are, however, the most difficult to verify since applicants must estimate future values of these items. Marginal tax item error (includes items on the IRS tax form, AGI, U.S. taxes paid, exemptions, etc.) accounts for over $70 million in absolute error, but only $2 million in net error. This indicates that there is a large amount of tax item error that is masked when looking at net error. This table also shows that non-taxable income items and asset items have a significant impact on error, accounting for $67.2 million and $85.1 million in error respectively.

Comparison of Ranks with the Pell Stage Three

Because of the many changes that have transpired in the Pell program during the 3 years between Title IV Stage Two and Pell Stage Three and because the value of money is not constant with time, ranks of net marginal error associated with application items are the most meaningful measure of comparison between the two studies. Table 5-5 shows that of the top 10 marginal errors for 1985-86, all were ranked in the top 11 in 1982-83. This shows that the application items which cause the highest net marginal errors in 1985-86 also caused the highest marginal errors in 1982-83. There were some relative changes in the rankings that could have occurred due to changes in validation. The change in the relative ranking of home equity could also have occurred due to the fact that, in general, home values have increased and the asset protection amount has remained the same between the two studies, thus leaving more opportunities for error.

TABLE 5-5
A COMPARISON OF RANKS OF THE IMPACT ON NET PROGRAM-WIDE PELL STUDENT ERROR FOR INDIVIDUAL APPLICATION ITEMS
1982-83 AND 1985-86

Item	Ranks 1985-86	 1982-83
Other Nontaxable Income	1	2
Home Equity	2	5
Dependency Status	3	1
Dependent Student's Assets	4	6
Student's Expected Taxable Income	5	--
Household Size	6	3
Adjusted Gross Income	7	7
Number in College	8	4
Dependent Student's Income	9	8
Investment Equity	10	11
AFDC	11	12
Dependent's Nontaxable Income	12	--
Business/Farm Equity	13	15
Cash/Checking/Savings	14	16
Student's Expected Nontaxable Income	15	--
Educational VA Benefits	16	13
Dependent's Taxes Paid	17	--
Elementary and Secondary Tuition	18	19
Parent's Marital Status	19	14
Student's Spouse's Expected Income	20	--
Student's Marital Status	21	20
Mother's/Spouse's Earned Income	22	10
Medical Expenses	23	17
Father's/Student's Earned Income	24	18
Social Security Benefits	25	21
Federal Taxes Paid	26	9

5.1.2 Institutional Error

Pell institutional error can be separated into four components:

- **Cost of Attendance Error:** Errors made in determining cost of attendance that would have impacted the amount awarded. Does not include miscalculations of cost that would have had no effect on award (e.g., cost miscalculations where both reported and best cost were over $3,500).

- **Enrollment Status Error:** The impact on award of the difference between best and reported enrollment status. Reported enrollment status was not directly available -- the fraction listed on the SAR does not reflect a full year's enrollment and may not be completed accurately -- and had to be estimated by comparing the amount disbursed to the scheduled full-time award based on reported data. Best enrollment status is what the student's enrollment status actually was.

- **Calculation Error:** The difference between the amount disbursed by the institution and the amount that should have been disbursed based on reported SAI, reported cost of attendance, and reported enrollment status.

- **Categorical Error:** Combined impact of awards to students with the following mistakes:

  -- having a Bachelor's Degree

  -- not making Satisfactory Academic Progress (second and later disbursements only)

  -- not having a Financial Aid Transcript (second and later disbursements only)

  -- not having a Selective Service Compliance Statement

  -- defaulting on a loan at that institution

  -- not having a Statement of Educational Purpose.

A breakdown of these individual categorical errors is presented in Appendix C.

Table 5-6 describes each of the Pell marginal institutional errors. Enrollment status error occurred most frequently, more than twice as

TABLE 5-6
SIGNIFICANT COMPONENTS OF INSTITUTUIONAL ERROR* IN THE PELL PROGRAM,
1985-86

Item	NO ERROR (within $50) Percent	UNDERAWARD Percent	UNDERAWARD Mean	UNDERAWARD Total ($ Millions)	OVERAWARD Percent	OVERAWARD Mean	OVERAWARD Total ($ Millions)	NET ERROR Total ($ Millions)
Enrollment Status Error	81.8	8.3	434	100.9	9.9	401	110.5	9.6
Cost of Attendance Error	92.7	2.3	381	24.0	5.0	230	32.3	8.3
Calculation Error	92.3	4.6	346	43.9	3.2	536	47.6	3.7
Categorical Error**	95.9		N/A		4.1	997	114.2	114.2

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*Using a ± $50 tolerance

** Categorical errors only result in overawards often as cost of attendance, calculation, and categorical error. With the exception of calculation error, underawards occurred with the same frequency and magnitude as overawards. The relatively even distribution of underawards and overawards indicates that institutional error occurred with no tendency to either favor or penalize recipients. Categorical error, while having the lowest incidence of error, also had high net payment consequences. This inconsistency occurred because categorical errors are always overawards and usually lead to the entire award being considered in error.

In Table 5-7 a comparison between 1982-83 and 1985-86 of the percent of cases containing each of the marginal institutional errors is presented. Given the changes in award amounts and program funding between studies, we felt it was better to compare the percent of cases in error rather than means or totals. Even this comparison should be made with caution considering the large variances surrounding the estimates of error below the student and institutional level. The Table indicates that the relative ranking of errors remained consistent between years with a decline, albeit small in some cases, in error rates occurring over time.

5.2 SIGNIFICANT ERRORS IN THE CAMPUS-BASED PROGRAMS

Overall Campus-Based need error was decomposed into student error and institutional error in Chapter 4. As in Pell, error can be further decomposed into the marginal effects of misreporting application items on student error and of institutional mistakes on institutional error.

TABLE 5-7
COMPONENTS OF INSTITUTIONAL ERROR IN THE PELL PROGRAM, 1985-86 AND 1982-83

	PERCENTAGE OF CASES IN ERROR	
	1985-86*	1982-83**
Cost of Attendance Error	7.3	10.8
Enrollment Status Error	18.2	22.3
Calculation Error	7.7	12.3
Categorical Error	4.1	5.2

* Using a ±$50 tolerance

** Using a ±$2 tolerance

5.2.1 Student Error

Rates and average discrepancies are presented for selected application items for independent and dependent students. Rates and amounts of marginal error associated with selected individual application items and selected groups of application items are presented and discussed. Finally, individual application items are ranked by net program-wide marginal error and these ranks are compared to the ranks from the 1983-84 study (Title IV Stage One).

Student Application Item Discrepancies

Student error can occur whenever the value reported by the student differs from the "best" value for any application item. Tables 5-8 and 5-9 present the rates and average amounts of discrepancies in selected application items for independent and dependent students respectively. Discrepancies are divided into groups which distinguish the direction of the discrepancy. A discrepancy in which the reported value would result in a lower Expected Family Contribution (EFC) than the best value, favors the applicant. Conversely, a discrepancy in which the reported value would result in a higher Expected Family Contribution than the best value is against the applicant. Both tables use a ±$50 tolerance for dollar-valued items and exclude dependency switchers. A further breakdown of discrepancy statistics is given for selected application items. In addition to the aggregate statistics, rates and average amounts are given for applicants reporting zero for that item and separately for applicants reporting a positive value.

TABLE 5-8
RATES AND AMOUNTS OF DISCREPANCY* IN SELECTED APPLICATION ITEMS FOR INDEPENDENT STUDENTS IN THE CAMPUS-BASED PROGRAMS, 1985-86

Selected Application Items	No Discrepancy	Reported Values Against the Applicant		Reported Values Favoring The Applicant	
	Percent	Percent	Mean	Percent	Mean
Adjusted Gross Income	80.8	10.8	2610	8.4	2944
Student's Expected Taxable Income	30.0	24.1	1974	46.0	3027
Cash, Checking and Savings	76.0	4.1	584	19.8	415
Household Size	88.1	7.1	N/A	4.8	N/A
Number in College	94.5	3.6	N/A	1.9	N/A
Spouse's Expected Taxable Income	84.6	6.0	2776	9.3	4766
None Reported	95.9	0	--	4.1	7077
Positive Value Reported	17.7	41.9	2776	40.4	3374
Expected Nontaxable Income	78.6	5.9	1163	15.5	2524
None Reported	87.2	0	--	12.8	2855
Positive Value Reported	27.6	41.1	1163	31.3	1720
Home Equity	93.4	2.7	5570	3.9	6323
None Reported	99.1	0	--	0.9	21560
Positive Value Reported	44.8	25.3	5570	29.8	2583

* Using a ± $50 tolerance

TABLE 5-9
RATES AND AMOUNTS OF DISCREPANCY* IN SELECTED APPLICATION ITEMS FOR DEPENDENT STUDENTS IN THE CAMPUS-BASED PROGRAMS, 1985-86

Selected Application Items	No Discrepancy	Reported Values Against the Applicant		Reported Values Favoring The Applicant	
	Percent	Percent	Mean Discrepancy($)	Percent	Mean Discrepancy($)
Adjusted Gross Income	83.4	7.4	6353	9.1	3504
Father's Earned Income	72.9	13.9	6778	13.2	6220
Mother's Earned Income	80.3	9.9	3483	9.8	5102
U.S. Income Tax	73.9	18.0	1224	8.1	1374
Cash, Checking and Savings	68.3	11.8	4595	19.9	1296
Number in College	85.1	4.9	N/A	10.1	N/A
Household Size	78.8	6.8	N/A	18.9	N/A
Home Equity	53.0	9.8	22,969	37.2	15,869
None Reported	80.2	0	--	19.8	33,576
Positive Value Reported	42.1	13.8	22,969	44.1	12,693
Other Non-Taxable Income	68.9	0	--	31.1	1177
None Reported	63.3	0	--	36.7	1142
Positive Value Reported	77.9	0	--	22.1	1138
Dependent Student's Net Assets	65.6	0	--	34.4	451
None Reported	63.1	0	--	36.9	430
Positive Value Reported	70.5	0	--	29.5	500
Medical Expense	68.0	0	1065	12.0	709
None Reported	86.7	13.3	1298	0	--
Positive Value Reported	57.7	23.7	993	18.6	709

* Using a ± $50 tolerance

Of the Campus-Based recipients who reported to be independent, 8.6[1] percent were found to be dependent. Table 5-8 presents discrepancies for independent Campus-Based recipients. Student's expected taxable income is misreported more often than any other application item for independent recipients and is underestimated nearly twice as often as overestimated. Less than 20 percent of the independent recipients who reported a positive value for spouse's expected taxable income estimated it within $50 of the best value. Over half of the independent recipients who reported owning a home failed to report home equity within $50 of the best value.

Of the Campus-Based recipients who reported to be dependent, 0.5[1] percent were found to be independent. Table 5-9 presents discrepancies for dependent Campus-Based recipients. Home equity is misreported more often than any other application item for dependent recipients. Nearly one-half of all dependent students misreported home equity. Underreporting of home equity was nearly four times as frequent as overreporting.

Marginal Errors Associated with Individual Application Items

In order to measure the effects of misreporting of application items on Campus-Based need, one must look beyond item discrepancy to marginal error. The application items are mapped into an Expected Family

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[1] Tables presenting the rates of dependency status errors in the Pell, Campus-Based, and GSL Programs are contained in Appendix E.

Contribution (EFC) by the Family Contribution Formula or one of several similar EFC algorithms approved by the Department of Education. Campus-Based need is determined by subtracting the EFC and the total other aid (including Pell) received from the cost of attendance. The school, in individual cases, may adjust the calculated EFC if it believes that the figure does not accurately reflect the applicant's ability to contribute to his or her education. The actual Campus-Based award is not required to meet, but cannot exceed, the computed need. Application items not only affect the EFC, but also affect the Pell Grant which is considered among the other aid. An increase in AGI, for example, might cause the EFC to increase, but might also decrease the Pell Grant at the same time. It is often difficult to predict the effect that a change in an application item will have on Campus-Based need, especially for Pell recipients. Marginal student need error measures the effects of misreporting of application items on student need error. The marginal errors are calculated by first determining a baseline need using the EFC, other aid and cost of attendance used by the school. The marginal need is then calculated for each item by replacing the reported value with the best value and holding all other parameters constant. The marginal error for an application item is the difference between the baseline need and the marginal need. When the marginal need falls below the actual award that the student received, a marginal payment error occurs. The marginal need error for an application item measures the need error removed if that item were independently verified. The sum of the marginal need errors does not equal the net student need error. The sum of the error removed by independently verifying each application item is not the same as the error removed by verifying all application items at once.

Table 5-10 lists rates and amounts of marginal Campus-Based need error for selected individual application items. Statistics are given for all students as well as for independent and dependent students separately. The application items are listed in descending order of net program-wide marginal need error. The last item listed, AGI, has a net marginal need error of $8.5 million in understatements. The absolute marginal need error for AGI is $74.7 million. AGI was included in this list because of its underlying importance in need calculation and because of its large absolute marginal need error.

A comparison of the statistics for home equity for dependent students illustrates the difference between item discrepancy and marginal error. Table 5-9 shows that 37.2 percent of all dependent students understated home equity by an average of $15,869. Table 5-10 shows that this level of understatement leads to an average of $475 in overstatement of need among 13.2 percent of dependent students.

Marginal Errors Associated with Groups of Application Items

The concept of marginal need error can also be extended to groups of application items in the Campus-Based programs. This approach is similar to that used in Pell. However, need rather than awards are analyzed. The baseline need is the same as for individual item marginals. The marginal need is calculated by replacing reported values with best values for selected groups of application items. For example, marginal income tax item error is calculated by using best values for adjusted gross income, U.S. income taxes, exemptions, income portions, medical

TABLE 5-10
INDIVIDUAL APPLICATION ITEMS HAVING A SIGNIFICANT IMPACT ON PROGRAM-WIDE CAMPUS-BASED STUDENT NEED ERROR*, 1985-86

	NO ERROR	UNDERSTATEMENT			OVERSTATEMENT				NET NEED ERROR
	(Within $50) Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)	Awards in Excess of Need ($ Millions)	Total ($ Millions)
Student's Expected Taxable Income	83.9	5.7	988	71.5	10.4	1393	186.3	24.4	114.8
Independents	57.7	13.3	1022	61.0	28.9	1415	183.2	24.4	122.2
Dependents	98.0	1.5	827	10.4	0.5	725	3.1	0	-7.3
Student's Expected Non-Taxable Income	91.1	2.5	823	26.3	6.4	1701	140.3	35.9	114.0
Independents	81.8	4.9	1028	22.3	13.4	1824	109.0	29.4	86.7
Dependents	96.0	1.2	388	4.0	2.7	1378	31.3	6.5	27.3
Household Size	87.4	4.2	428	22.8	8.5	753	81.6	17.9	58.7
Independents	95.5	1.6	564	4.1	2.4	501	5.4	0.4	1.3
Dependents	82.8	5.5	406	18.7	11.7	781	76.1	17.5	57.4
Number in College	92.8	3.1	575	22.6	4.1	934	49.1	13.0	26.5
Independents	98.4	1.1	2029	9.9	0.5	889	2.1	0.4	-7.8
Dependents	89.9	4.1	368	12.6	6.0	937	47.0	12.7	34.4
Dependency Status	96.8	1.4	893	15.4	1.8	1777	41.4	15.9	26.0
Independents	91.8	3.6	890	14.2	4.6	1874	38.9	14.8	24.7
Dependents	99.5	0.2	922	1.2	0.3	966	2.4	1.1	1.2
Other Non-Taxable Income	86.1	4.2	354	18.8	9.7	341	42.5	6.8	23.7
Independents	94.8	5.2	354	8.3	0	—	—	—	-8.3
Dependents	81.5	3.6	355	10.5	15.0	341	42.5	6.8	32.0
Student's Spouse's Expected Income	96.5	1.3	1540	25.2	2.2	1753	49.8	9.6	24.5
Independents	90.0	3.7	1540	25.2	6.4	1753	49.8	9.6	24.6
Dependents	100	0	—	—	0	—	—	—	—
Home Equity	85.9	5.0	553	35.1	9.2	494	58.0	16.0	22.9
Independents	97.9	0.5	515	1.0	1.7	767	5.8	0.8	4.8
Dependents	79.4	7.4	554	34.0	13.2	475	52.2	15.9	18.2
Dependent Student's and Spouse's Assets (Dependent Students Only)	84.7	2.9	94	2.3	12.4	227	23.5	4.9	21.2
Adjusted Gross Income	91.4	3.8	854	41.6	4.8	541	33.1	11.3	-8.5
Independents	96.5	1.4	850	5.4	2.0	554	5.1	0	-0.3
Dependents	88.7	5.1	855	36.2	6.2	539	28.0	11.3	-8.2

*Using a ± $50 tolerance

deductions, and itemized deductions; and reported values for all other application items. Looking at groups of application items could identify potential focal points for corrective actions given the similar nature of the items within a group.

Table 5-11 lists marginal errors for selected groups of application items. Application items have been logically grouped to represent groups of items that might be verified concurrently. The table shows that if the best values for all prospective items were known, an estimated $570 million in absolute need error and over $91 million in awards in excess of need could be eliminated. (Prospective items are, however, the most difficult to verify since applicants are asked to estimate future values.) The table also shows that marginal tax item error accounts for over $115 million in absolute need error, but results in a net need understatement of nearly $13 million and awards in excess of need of over $11 million.

Comparison of Ranks with Stage One

Because of changes that also have transpired in the Campus-Based programs during the 2 years between Title IV Stage Two and Stage One (e.g. the imposition of a minimum contribution from income for independent students), ranks of net marginal need error associated with application items are the most meaningful measure of comparison between the two studies. Table 5-12 lists the ranks for the Campus-Based application items for 1985-86 and 1983-84. Student's taxable and non-taxable income have consistently been ranked one and two. Dependency status continues to rank high, falling one position from fourth to

TABLE 5-11
GROUPS OF APPLICATION ITEMS HAVING A SIGNIFICANT IMPACT ON CAMPUS-BASED STUDENT NEED ERROR*, 1985-86

	NO ERROR	UNDERSTATEMENT			OVERSTATEMENT				NET NEED ERROR
	(Within $50) Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)	Awards in Excess of Need ($ Millions)	Total ($ Millions)
Prospective Income Items	76.1	7.1	1037	93.8	16.9	1601	345.6	64.8	251.8
Independents	42.7	15.1	1174	79.4	42.2	1648	311.3	58.4	231.9
Dependents	94.0	2.8	631	14.4	3.2	1275	34.3	6.5	19.9
Household Size and Number in College	83.7	6.1	536	41.9	10.2	805	105.4	25.7	63.5
Independents	94.6	2.6	1205	13.8	2.9	553	7.2	0.8	-6.6
Dependents	77.8	8.0	421	28.1	14.2	833	98.2	24.9	70.1
All Prospective Items	62.6	11.5	850	125.5	25.8	1345	444.5	91.5	319.0
Independents	41.7	15.7	1231	86.5	42.7	1642	313.5	60.4	227.0
Dependents	73.9	9.3	505	39.0	16.8	938	131.0	31.1	92
Income Tax Items	79.8	9.9	503	64.0	10.3	388	51.1	11.6	-12.9
Independents	95.1	1.8	743	6.1	3.0	483	6.6	0.9	0.5
Dependents	71.5	14.3	486	57.9	14.2	377	44.6	10.7	-13.3
Non-Taxable Items	85.4	4.3	301	16.4	10.4	389	51.6	8.7	35.2
Independents	95.0	4.3	229	4.4	0.7	1250	3.6	0.7	-0.8
Dependents	80.2	4.2	341	11.9	15.6	370	48.0	8.0	36.1
Asset Items	80.9	7.7	447	44.0	11.4	471	69.0	16.4	25.0
Independents	92.5	2.2	227	2.3	5.3	435	10.3	1.0	8.0
Dependents	74.6	10.6	472	41.7	14.8	478	58.8	15.3	17.1

*Using a ± $50 tolerance

TABLE 5-12

A COMPARISON OF RANKS OF IMPACT ON NET PROGRAM-WIDE CAMPUS-BASED STUDENT NEED ERROR FOR INDIVIDUAL APPLICATION ITEMS 1983-84 AND 1985-86

	Ranks	
Item	1985-86	1983-84
Student's Expected Taxable Income	1	1
Student's Expected Nontaxable Income	2	2
Household Size	3	5
Number in College	4	24
Dependency Status	5	4
Other Nontaxable Income	6	9
Student's Spouse's Expected Income	7	2
Home Equity	8	19
Dependent Student's Net Assets	9	7
Social Security Benefits	10	12
Federal Taxes Paid	11	11
Investment Equity	12	21
Father's/Student's Earned Income	13	8
Business/Farm Equity	14	16
Educational VA Benefits	15	10
AFDC	16	14
Dependent's Nontaxable Income	17	15
Elementary and Secondary Tuition	18	17
Parent's Marital Status	19	--
Student's Marital Status	20	--
Cash/Checking/Savings	21	22
Mother's/Spouse's Earned Income	22	23
Dependent Student's Adjusted Gross Income	23	13
Adjusted Gross Income	24	6
Medical Expenses	25	20

fifth. Number in college moved significantly up the scale, rising from twenty-fourth to fourth. Home equity also moved up the scale from nineteenth to eighth. Adjusted gross income fell from sixth to twenty-fourth in the ranking. Many of the reasons for these changes in rankings are unclear given available data.

5.2.2 Institutional Error

Campus-Based institutional error can be separated into seven components:

- **Errors in Factoring Pell Awards:** The Pell award used by the institution in determining need for the Campus-Based programs differs from the award that should have been used based on reported SAI, best cost of attendance, and best enrollment status. These errors can cause both need errors and awards in excess of need.

- **Cost of Attendance Error:** The cost of attendance used by the institution in determining need differs from the cost of attendance they should have used according to program regulations and their own policies. COA errors can cause need errors and awards in excess of need.

- **EFC Error:** The institution made unexplained adjustments to one or more data elements comprising the EFC formula. This could lead to need errors or awards in excess of need.

- **Errors in Factoring GSL Awards:** In cases where GSL was packaged before Campus-Based aid, the GSL resource used by the institution in determining need differs from the resource that should have been used controlling for any institutional errors made in certifying the GSL. This error can cause need errors and awards in excess of need.

- **Initial Overawards:** The amount of Campus-Based aid awarded exceeded the amount of need calculated using all reported values. These errors can only cause awards in excess of need.

- **Disbursement Error:** The amount of Campus-Based aid disbursed exceeded the amount accepted by the recipient except for College Work-Study where up to a $200 overaward was acceptable. These errors can only cause awards in excess of need.

- **Categorical Error:** Combined impact of awards to students with the following mistakes:
    - -- Having a Bachelor's Degree in the SEOG program
    - -- Not making Satisfactory Academic Progress (second and later disbursements only)
    - -- Not having a Financial Aid Transcript (second and later disbursements only)
    - -- Not having a Selective Service Compliance Statement
    - -- Defaulting on a loan at that institution
    - -- Not having a Statement of Educational Purpose.

Categorical errors only cause awards in excess of need. A breakdown of these individual categorical errors is presented in Appendix C.

Table 5-13 describes each of the Campus-Based marginal institutional errors. Errors in factoring Pell awards occur the most frequently, almost 20 percentage points more than any of the other errors. While most of the error in factoring Pell awards was found among Pell recipients, even persons not receiving a Pell award could have this type of error. Because Pell, as an entitlement program, is always supposed to be considered first before awarding other Title IV aid (see 34 CFR 674.14(d), 675.14(d), 676.14(d), and USDE Dear Colleague letter #G-86-79 April 1986, p. 4), an error could occur if an institution did not properly factor into the need determination the Pell award a student was entitled to even if he or she chose not to accept it.

Institutional errors made in disbursing the Pell award and differences between the Pell award actually disbursed and the award used in calculating Campus-Based need contribute about equally to the total

TABLE 5-13
SIGNIFICANT COMPONENTS OF INSTITUTIONAL NEED ERROR* IN THE CAMPUS-BASED PROGRAMS, 1985-86

	NO ERROR	UNDERSTATEMENT			OVERSTATEMENTS				NET NEED ERROR
Item	(Within $50) Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)	Awards in Excess of Need ($ Millions)	Total ($ Millions)
Errors in Factoring Pell Awards	77.3	14.1	574	103.6	8.6	642	70.9	2.9	-32.6
Cost of Attendance Error	97.4	1.6	1518	31.5	1.0	2104	25.8	0.5	-5.7
EFC Error	99.6	0.3	245	0.9	0.1	872	1.6	0.8	0.7
Errors in Factoring GSL Awards	98.9	0.3	1850	6.4	0.8	2291	23.3	0.5	16.9
Initial Overawards**	94.4		N/A		5.6	656	N/A	47.2	
Disbursement Error**	95.8		N/A		4.3	784	N/A	42.8	
Categorical Error**	96.9		N/A		3.1	1121	N/A	45.0	

* Using a ± $50 tolerance
** Awards in excess of need only

amount of error attributed to incorrectly factoring Pell awards. Since need is usually determined at the beginning of the program year, changes in the amount of the Pell award during the year could cause the Pell disbursed to differ from the Pell used in calculating need. The fact that there was a small amount of awards in excess of need associated with errors in factoring Pell awards even though there was a high amount of need error, may indicate that institutions only adjust need to account for changes in the Pell award if it causes total aid received to exceed need. Changes that only affect the amount by which need exceeds aid received could be ignored as inconsequential.

Initial overawards and disbursement errors both contributed significantly to awards in excess of need although they occurred in only about 5 percent of cases. An initial overaward occurs when an institution awards a student too much aid using all reported data. Because we were not always able to determine the other aid actually used by the institution in determining need, initial overawards captures institutions' failures to account for all aid sources in addition to their failure to coordinate all aid received. Initial overawards and disbursement errors both point to institutional problems in tracking all of the sources of financial assistance received by a single student. The relative infrequency of these errors, however, increases the difficulty of uncovering underlying causes and developing corrective actions.

In Table 5-14 a comparison between 1983-84 and 1985-86 of the percent of cases with awards in excess of need for each of the marginal

TABLE 5-14
COMPONENTS OF INSTITUTIONAL ERROR*
IN THE CAMPUS-BASED PROGRAMS, 1985-86 AND 1983-84

	PERCENTAGE OF CASES WITH AWARDS IN EXCESS OF NEED	
	1985-86	1983-84
Cost of Attendance Error	0.2	0.7
Errors in Factoring Pell Awards	0.9	0.5
Initial Overawards	5.6	4.0
EFC Error	0.1	0.1
Disbursement Error	4.3	3.2
Categorical Error	3.1	3.7

* Using a ±$50 tolerance

institutional errors is presented. The general order of magnitude of the errors remained consistent between studies with no component occurring frequently. Given the previously mentioned difficulties in making comparisons across studies, it would be unwise to attach much significance to the relatively minor changes reflected in the Table.

5.3 SIGNIFICANT ERRORS IN THE GSL PROGRAM

This section presents components of error in the GSL program. In Chapter 4, overall GSL certification error was decomposed into student error and institutional error. This section will present the effects of misreporting dependency status and family adjusted gross income on student certification error and the effects of institutional inaccuracies on institutional error.

5.3.1 Student Error in the GSL Program

Because of the $30,000 family AGI threshold described in Chapter 4, the application items used for the Pell and Campus-Based programs do not affect GSL certifications for applicants whose family AGI is $30,000 or less. For applicants reporting $30,000 or less in family AGI, overcertifications and hence, significant marginal student error can occur only if the actual family AGI is greater than $30,000. However, because reauthorization requires need analysis for all GSL applicants, we analyzed application errors regardless of their affect on overcertifications. Table 5-15 presents student application

TABLE 5-15
DISCREPANCY RATES FOR STUDENT APPLICATION ITEMS IN THE GSL PROGRAM, 1985-86

	No Discrepancy (within $50) Percent	Discrepancy Against Applicant Percent	Discrepancy Favoring Applicant Percent
AGI	82.2	8.7	9.1
Independent	81.9	10.2	7.9
Dependent	82.4	7.7	9.8
U.S. Taxes	69.2	24.9	5.9
Independent	76.2	20.2	3.6
Dependent	64.8	28.0	7.4
Father/Student Income	62.9	12.0	25.1
Independent	65.8	11.5	22.6
Dependent	61.0	12.4	26.7
Mother/Spouse Income	75.2	7.0	17.8
Independent	83.4	5.4	11.2
Dependent	69.8	8.0	22.2
Social Security Benefits	98.4	0.9	0.7
Independent	98.2	1.8	0.0
Dependent	98.6	0.3	1.1
AFDC Benefits	99.3	0.2	0.5
Independent	99.3	0.2	0.5
Dependent	99.4	0.2	0.5
Other Non Taxable Income	67.6	0.0	32.4
Independent	75.5	0.0	24.5
Dependent	62.4	0.0	37.6
Medical Expenses	70.5	20.2	9.3
Independent	86.3	12.9	0.8
Dependent	60.0	25.0	14.9

TABLE 5-15
DISCREPANCY RATES FOR STUDENT APPLICATION ITEMS IN THE GSL PROGRAM, 1985-86 (Continued)

	No Discrepancy (within $50) Percent	Discrepancy Against Applicant Percent	Discrepancy Favoring Applicant Percent
Elementary & Secondary Tuition	96.0	3.5	0.5
Independent	98.9	1.1	0.0
Dependent	94.1	5.1	0.8
Dependent's Income	86.1	3.5	10.4
Independent	100.0	0.0	0.0
Dependent	77.0	5.8	17.2
Dependent's U.S. Taxes	91.0	7.3	1.7
Independent	100.0	0.0	0.0
Dependent	85.0	12.1	2.9
Dependent's Non Taxable Income	95.0	2.1	2.9
Independent	100.0	0.0	0.0
Dependent	91.8	3.4	4.8
Dependent's Net Assets	75.5	0.4	24.1
Independent	100.0	0.0	0.0
Dependent	59.4	0.7	39.9
Cash, Savings and Checking	64.2	8.1	27.6
Independent	68.1	2.9	29.0
Dependent	61.7	11.6	26.7
Home Equity	60.2	6.2	33.5
Independent	86.6	1.5	11.9
Dependent	42.9	9.3	47.8

TABLE 5-15
DISCREPANCY RATES FOR STUDENT APPLICATION ITEMS IN THE GSL PROGRAM, 1985-86 (Continued)

	No Discrepancy (within $50)	Discrepancy Against Applicant	Discrepancy Favoring Applicant
	Percent	Percent	Percent
Business Farm Equity	98.2	0.7	1.2
Independent	98.7	0.3	0.9
Dependent	97.8	0.9	1.3
Investment Equity	90.7	0.9	8.4
Independent	95.6	0.1	4.2
Dependent	87.5	1.5	11.1
Student's Expected Income	25.2	19.9	55.0
Independent	22.6	19.9	57.4
Dependent	26.8	19.8	53.4
Spouse's Expected Income	90.1	2.1	7.8
Independent	76.2	5.4	18.4
Dependent	99.3	0.0	0.7
Expected Non Taxable Income	91.0	2.5	6.6
Independent	82.9	5.1	11.9
Dependent	96.3	0.7	3.0
Educational VA Benefits	99.3	0.1	0.6
Independent	98.3	0.3	1.4
Dependent	100.0	0.0	0.0

discrepancies for all students, and independent and dependent students as well.

Table 5-16 presents the level of dependency status error and its effects on student certification error. Just over 6 percent of the GSL recipients who claimed to be independent were actually dependent. This is down from over 10 percent in Stage One. Among students claiming independence, the student certification error rate for students who misreported dependency status was over five times as high as for those who correctly reported dependency status. Among students claiming independence, the mean error was more than double for those with dependency status error.

Table 5-17 presents the frequency of crossing the $30,000 AGI threshold and the effects of this activity on student certification error. Of the GSL recipients who reported $30,000 or less in family AGI, just over 2 percent had best family AGI of over $30,000. This is approximately the same level observed in Stage One. A slightly higher percentage of applicants had family AGI of over $30,000 in Stage Two than in Stage One. The student certification error rate and mean error are much higher for recipients who reported less than $30,000 in family AGI, but were verified above $30,000, than any other cell in Table 5-17. Applicants who reported over $30,000 in family AGI and were verified above the threshold also had a high error rate. This is because misreporting other application items can lead to student error for recipients in that cell.

TABLE 5-16
EFFECTS OF DEPENDENCY STATUS ERRORS ON STUDENT CERTIFICATION ERROR* IN THE GSL PROGRAM, 1985-86

BEST DEPENDENCY STATUS

Reported Dependency Status	Independent					Dependent				
	Population Percent		Mean Error($)	Percent of Total Error	Error Rate (%)	Population Percent		Mean Error($)	Percent of Total Error	Error Rate (%)
	1985-86	1983-84				1985-86	1983-84			
Independent	33.4	34.9	62	17.0	1.4	2.2	4.2	135	2.4	7.9
Dependent	0.5	0.6	0	0	0	63.9	60.2	155	80.7	17.1

* Using a $50 tolerance

TABLE 5-17
EFFECTS OF CROSSING THE $30,000 FAMILY AGI THRESHOLD ON STUDENT CERTIFICATION ERROR IN THE GSL PROGRAM *
1985-1986

BEST FAMILY ADJUSTED GROSS INCOME

Reported Family Adjusted Gross Income	$30,000 or Less					Over $30,000				
	Population Percent		Mean Error($)	Percent of Total Error	Error Rate (%)	Population Percent		Mean Error($)	Percent of Total Error	Error Rate (%)
	1985-86	1983-84				1985-86	1983-84			
$30,000 or Less	63.7	72.2	3	1.7	1.1	1.5	1.6	1182	14.6	64.0
Over $30,000	1.5	0.1	0	0.0	0.0	33.2	26.3	309	83.8	29.8

*Using a $50 tolerance

5.3.2 Institutional Error

GSL institutional certification error can be classified into seven mutually exclusive categories:

- **Errors in Factoring Pell Awards:** The Pell award used by the institution in determining the GSL certification differs from the award that should have been used based on reported SAI, best cost of attendance, and best enrollment status.

- **Cost of Attendance Error:** The cost of attendance used by the institution in determining the GSL certification differs from the cost of attendance they should have used according to program regulations and their own policies.

- **EFC Error:** The institution did not properly calculate the EFC given the data reported by the student.

- **Errors in Factoring Campus-Based Awards:** In cases where Campus-Based aid was packaged before GSL, the amount of Campus-Based aid used by the institution in determining the certification differs from the resource that should have been used controlling for any institution errors made in awarding Campus-Based aid to avoid double counting errors.

- **Error in Factoring Other Aid:** The amount of other aid used by the institution in determining the certification differs from the amount of other aid that should have been counted as a resource.

- **Initial Overawards:** The amount of GSL certified exceeded the amount of need calculated using all reported values.

- **Categorical Error:** Combined impact of awards to students with the following mistakes:

  -- not having a Selective Service Compliance Statement
  -- defaulting on a loan at that institution

A breakdown of these individual categorical errors is presented in Appendix C.

Table 5-18 describes each of the GSL marginal institutional certification errors. Errors made by institutions in computing EFC had

TABLE 5-18
SIGNIFICANT COMPONENTS OF INSTITUTIONAL CERTIFICATION ERROR* IN THE GSL PROGRAM,1985-86

	NO ERROR	OVERCERTIFICATION		
	(Within $50) Percent	Percent	Mean	Total** ($ Millions)
Errors in Factoring Pell Awards	96.3	3.8	643	84.6
Cost of Attendance Error	99.8	0.2	635	5.3
EFC Error	93.8	6.2	1192	260.0
Errors in Factoring Other Aid	97.9	2.2	551	41.5
Errors in Factoring Campus-Based Aid	98.4	1.6	589	32.6
Initial Overawards	96.7	3.3	1117	129.9
Categorical Error	98.7	1.3	3043	142.8

*Using a $50 tolerance

**Due to a revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

the largest impact on certification error. There are three possible areas where institutions can make mistakes in computing the EFC to use in the GSL program:

- Use of an EFC different from the EFC used in awarding Campus-Based aid.
- Failure to use the GSL Tables properly.
- Incorrect determination of whether family adjusted gross income is over or under $30,000 given data provided by the student.

Of the three potential mistakes, the failure to use the GSL Tables properly had the largest impact on EFC error. In almost one-fourth of the cases where the GSL Tables were the method used to calculate EFC, there was a certification error caused by the fact that the institution arrived at the wrong EFC given student-reported data on adjusted gross income, household size, and number in postsecondary education. In a small percentage of cases, institutions miscalculated whether adjusted gross income was over or under $30,000 because they failed to include dependent students' income in the calculation of income for GSL purposes. Institutions also occasionally made different adjustments to the EFC used for GSL purposes than they did to the EFC used in awarding Campus-Based aid or used the GSL Tables for students also receiving Campus-Based aid.

As was the situation in the Campus-Based programs, initial overawards were a significant source of institutional error. In conjunction with errors in factoring other aid, this indicates institutional problems in identifying and coordinating all sources of aid received. Errors in factoring Pell awards and Campus-Based aid demonstrate the interaction between programs where errors in one program affect the eligibility for another. Errors in factoring Pell awards was a problem in GSL just as it was for the Campus-Based programs.

In Table 5-19 a comparison between 1983-84 and 1985-86 of the percent of cases containing each of the marginal institutional certification errors is presented. Because of design changes suggested during the analysis of the Stage One data, we measured certification error attributable to EFC error and initial overawards in Stage Two even though they were not measured in the prior study. The data reveals an increase in error associated with errors in factoring Pell awards and a decrease in cost of attendance errors.

TABLE 5-19
COMPONENTS OF INSTITUTIONAL ERROR IN THE GSL PROGRAM, 1985-86 AND 1983-84

PERCENTAGE OF CASES WITH OVERCERTIFICATION*

	1985-86	1983-84
Errors in Factoring Pell Awards	3.8	1.7
Cost of Attendance Error	0.2	1.5
Errors in Factoring Other Aid/Campus-Based Aid**	3.8	4.2
Categorical Error	1.3	1.5

* Using a $50 tolerance

** In the 1983-84 study, errors in factoring other aid and Campus-Based aid were calculated together.

6.0

ANALYSIS OF STUDENT AND INSTITUTIONAL ERRORS IN THE TITLE IV PROGRAMS

This chapter presents the results of our analysis of the characteristics associated with student and institutional error. The following sections in this chapter present those characteristics that, after thorough analysis, are significantly related to the prevalence of error in the Pell, Campus-Based, and GSL programs. The analyses presented for each of the programs breakdown the characteristics associated with student error, as well as the characteristics associated with institutional error.

In formulating the analysis for this chapter, we developed a comprehensive set of characteristics, both of students and of institutions, that we believed would be related to student and institutional error and could offer some insight to the underlying source of errors in the Title IV programs. After preliminary analyses of this comprehensive set of characteristics, only a small subset of the characteristics were found to be statistically significant in their association with student and institutional error rates. An even smaller subset of those characteristics suggested relationships that were meaningful and not spurious in nature. Therefore, the tables and corresponding analyses presented in this chapter are only those that meet the following two criteria:

- The characteristic is statistically significant in its association with error, and

- **If statistically significant, the characteristic suggests a meaningful relationship and an insight to the source of error in the program.**

The characteristics presented in this chapter are only a portion of those we analyzed. The characteristics we tested for association with error included items such as student/family income and tax items, student's year in college, the number of recipients at the institution, institutional validation items, as well as many others. A complete list of the characteristics we tested for association with student and institutional error is presented in Appendix D.

The errors analyzed and presented in this chapter are aggregate student and institutional errors. The errors analyzed in this chapter are not the significant marginal errors presented in Chapter 5, but rather the student and institutional errors presented in Chapter 4. Furthermore, while Chapter 4 compared the student and institutional errors for the current study with previous national studies, similar comparisons are neither applicable nor desired for the analyses in this chapter. This chapter analyzes the student and institutional characteristics associated with student and institutional errors in the current study. These characteristics are important pieces of information for ED to have in order to assess the adequacy of current or future validation efforts in particular. Comparisons with previous characteristics are useful only when assessing past validation efforts. Frequencies of marginal errors and large variances around these estimates make such analyses inadvisable.

Finally, the analyses presented in this chapter only test for association with error. Causal relationships are not implied, nor can they be inferred. More complex analyses involving multivariate models will follow in Corrective Actions.

6.1 ANALYSIS OF STUDENT AND INSTITUTIONAL ERROR ACROSS THE TITLE IV PROGRAMS

The following section presents our findings of the similarities of characteristics for student and institutional errors across the Pell, Campus-Based, and GSL programs. When presenting the similarities of the characteristics for student errors across the programs, it is important to make the distinction between characteristics associated with student error for dependent students and characteristics associated with student error for independent students. Therefore, throughout this chapter, our analysis of student characteristics associated with student error make the distinction between dependent and independent students.

6.1.1 Analysis of Student Error Across the Title IV Programs

Several characteristics were associated with student error across the Pell, Campus-Based, and GSL programs. The characteristics commonly associated with student error across the programs included one institutional characteristic as well as several student characteristics.

The common characteristic of institutions that was related to student error in all of the programs was the type and control of the institution. In particular, students at private (not for profit) institutions exhibited higher rates of student errors for the Pell, Campus-Based, and GSL programs.

Student characteristics commonly associated with student error across the programs are the tax filing status and marital status of the parents and the size of the household for dependent students. For independent students the commonly associated characteristics were the tax filing status and marital status of the student (the filing status and marital status of the parents are not applicable for independent students). Dependent and independent students whose IRS filing status was joint were associated with higher rates of student error as were those whose marital status (of the parents for dependent students and of the student for independent students) was married. Other characteristics were associated with student error in one or two of the programs, but none with all three.

The bivariate analyses we present in this chapter show where characteristics were significantly related to student error. However, because, in many cases, these associations did not suggest the cause of the underlying relationship, and in order to test if some of the characteristics were correlated with other characteristics (e.g. effective family income), we tested for the significance of the characteristics using a multivariate analysis. The results of this multivariate analysis are presented at the end of this chapter.

6.1.2 Analysis of Institutional Error Across the Title IV Programs

Three institutional characteristics seem to be predominantly related to institutional error in the Pell, Campus-Based, and GSL programs. In addition to these three basic institutional characteristics, there are others that are associated with error in one or two of the three programs, but not all three. The three characteristics that are significantly related to institutional error across the programs are:

- Type and control of the institution
- Number of recipients in the respective program at the institution, and
- Academic calendar used by the institution.

In addition to these three characteristics, the number of clerical/data entry, full-time equivalent employees (FTE's), the number of professional staff FTE's, and the institution's use of automated procedures were significantly related to institutional error in the Pell and Campus-Based programs, and the need analysis system used by the institution was related to institutional error in the GSL program.

6.2 CHARACTERISTICS ASSOCIATED WITH STUDENT AND INSTITUTIONAL ERROR IN THE PELL GRANT PROGRAM

Many characteristics were found to be associated with student and institutional error in the Pell Grant program. The following is a list of the characteristics that are associated with student error, followed by a list of characteristics that are associated with institutional error.

Characteristics of Dependent Students Associated With Pell Student Error.

- Parents' tax filing status
- Date of application
- Parents' marital status
- Effective family income
- Household size
- Numbers in household enrolled in postsecondary institutions
- Student's age

Characteristics of Independent Students Associated With Pell Student Error.

- Student's tax filing status
- Student's marital status
- Effective family income

Institutional Characteristics Associated with Pell Student Error.

- Type and Control of the Institution

Institutional Characteristics Associated With Institutional Pell Error.

- Type and Control of the Institution
- Number of Pell recipients
- Academic calendar
- Use of automated procedures
- Number of clerical or data entry FTE's
- Number of professional staff FTE's

6.2.1 Characteristics Associated With Student Error in the Pell Grant Program

Dependent Students

It is predictable that a distinct set of student or family characteristics would be associated with Pell student error for dependent students since data for the student's parents as well as data for the student are used to determine eligibility and award. Parents' filing status is significantly associated with the occurrence of Pell student error.

Table 6-1 indicates that parents of dependent students filing joint returns were more likely to have Pell student error than nonfilers, those filing separately, or those filing a single return. This finding is most likely related to the fact that those families filing joint returns have a more complex financial profile, including higher income and perhaps assets. Non-filers (recipients and/or their families signing a statement that they did not, and will not, file an income tax return) have lower income and therefore changes in application data are less likely to cause student error.

The date of application is also significantly associated with Pell student error. Table 6-2 indicates that families applying before June 1 for the 1985-86 academic year were more likely to have Pell student errors than families applying on or after June 1. This is most likely caused by a combination of estimating income prior to filing taxes and due to changes in family characteristics (e.g., household size and number in college) prior to enrollment for the 1985-86 academic year. Parents' marital status is also significantly associated with error. Table 6-3 indicates that Pell student error occurred most frequently among dependent students whose parents were married.

Table 6-4 shows that, for dependent students, the families' effective family income was significantly associated with student error in the Pell Grant program. This table shows that students with higher levels of effective family income had higher rates of student error. This pattern

TABLE 6-1
PELL STUDENT ERROR BY PARENTS' IRS FILING STATUS FOR DEPENDENT STUDENTS, 1985-86

Parents' IRS Filing Status	NO ERROR (Within $50) Percent	UNDERAWARD Percent	UNDERAWARD Mean	UNDERAWARD Total ($ Millions)	OVERAWARD Percent	OVERAWARD Mean	OVERAWARD Total ($ Millions)
Did Not File (12.9% of Recipients)	85.6	5.4	694	7.3	9.1	707	12.6
Joint Return (56.5% of Recipients)	49.7	13.3	295	33.6	37.0	487	154.1
Single or Separate Return (30.7% of Recipients)	55.2	8.9	292	12.1	35.9	545	90.9

CHI-SQUARE: 60.726
DF: 4
P-VALUE: 0.0001

("CHI-SQUARE", "DF", and "P-VALUE" all refer to the results obtained from the test for association in this and subsequent tables.)

TABLE 6-2
PELL STUDENT ERROR BY DATE OF APPLICATION FOR DEPENDENT STUDENTS, 1985-86

Date of Application	NO ERROR (Within $50) Percent	UNDERAWARD Percent	UNDERAWARD Mean	UNDERAWARD Total ($ Millions)	OVERAWARD Percent	OVERAWARD Mean	OVERAWARD Total ($ Millions)
Before June 1, 1985 (74.7% of Recipients)	53.2	11.0	300	37.3	35.9	510	207.0
On or After June 1, 1985 (25.3% of Recipients)	64.3	10.9	377	15.7	24.8	530	50.3

CHI-SQUARE: 11.981
DF: 2
P-VALUE: 0.0021

TABLE 6-3
PELL STUDENT ERROR BY PARENTS' MARITAL STATUS FOR DEPENDENT STUDENTS, 1985-86

Parents' Marital Status	NO ERROR (Within $50)	UNDERAWARD			OVERAWARD		
	Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
Married (59.1% of Recipients)	50.4	13.0	308	35.8	36.6	490	160.4
Not Married (40.9% of Recipients)	66.4	7.9	345	16.9	28.5	558	98.5

CHI-SQUARE: 18.863
DF: 2
P-VALUE: 0.0001

TABLE 6-4
PELL STUDENT ERROR
BY EFFECTIVE FAMILY INCOME
FOR DEPENDENT STUDENTS,
1985-86

Effective Family Income ($)	NO ERROR (Within $50) Percent	UNDERAWARD Percent	UNDERAWARD Mean	UNDERAWARD Total ($ Millions)	OVERAWARD Percent	OVERAWARD Mean	OVERAWARD Total ($ Millions)
0-10,000 (35.5% of Recipients)	80.8	3.8	636	13.0	15.5	385	32.1
10,001-15,000 (24.4% of Recipients)	49.6	12.2	273	12.3	38.3	579	81.9
15,001-20,000 (20.5% of Recipients)	43.7	17.6	240	13.1	38.7	462	55.5
OVER 20,000 (19.6% of Recipients)	15.5	32.1	289	27.5	52.4	446	69.3

CHI-SQUARE: 164.279
DF: 6
P-VALUE: 0.0001

is particularly noticeable in the highest income group (over $20,000 in effective family income) which had the highest rate of overawards (52.4 percent) as well as underawards (32.1 percent).

Analysis also indicated that household size was significantly associated with Pell student error. Those families reporting higher family sizes were more likely to have a Pell student error than those reporting smaller family sizes. Table 6-5 indicates that families in the reporting categories four, five, or six or more had the highest frequencies of Pell student error. In addition, reported number in college is significantly associated with error. Table 6-6 indicates that Pell student error occurred most frequently in families reporting three or more siblings in college. The reported age of the dependent student is also significantly associated with Pell student error. Table 6-7 indicates that students whose reported age was over 20 were most likely to have student error.

Independent Students

Three characteristics of independent students were significantly associated with Pell student error. Similar to dependent students, filing status was significantly associated with student error. Table 6-8 shows that Pell student error occurred most frequently in the group of independent students filing joint returns. As with dependent students

TABLE 6-5
PELL STUDENT ERROR BY REPORTED HOUSEHOLD SIZE FOR DEPENDENT STUDENTS, 1985-86

Reported Household Size	NO ERROR (Within $50) Percent	UNDERAWARD Percent	UNDERAWARD Mean	UNDERAWARD Total ($ Millions)	OVERAWARD Percent	OVERAWARD Mean	OVERAWARD Total ($ Millions)
Two (10.1% of Recipients)	65.0	16.1	474	11.7	18.9	544	15.7
Three (22.7% of Recipients)	60.9	10.2	254	8.9	28.9	466	46.3
Four or Five (48.2% of Recipients)	52.3	10.9	287	22.8	36.8	543	145.8
Six or More (19.0% of Recipients)	54.9	9.2	361	9.6	35.90	476	49.1

CHI-SQUARE: 19.581
DF: 6
P-VALUE: 0.0033

TABLE 6-6
PELL STUDENT ERROR BY REPORTED NUMBER IN COLLEGE FOR DEPENDENT STUDENTS, 1985-86

Reported Number In College	NO ERROR (Within $50)	UNDERAWARD			OVERAWARD		
	Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
One (63.7% of Recipients)	60.7	12.1	341	39.8	27.2	547	143.5
Two (28.1% of Recipients)	48.4	9.6	268	10.9	42.1	469	84.0
Three or More (8.2% of Recipients)	45.9	6.5	271	2.2	47.6	504	29.8

CHI-SQUARE: 30.752
DF: 4
P-VALUE: 0.0001

TABLE 6-7
PELL STUDENT ERROR BY REPORTED STUDENT'S AGE FOR DEPENDENT STUDENTS, 1985-86

Reported Student's Age	NO ERROR (Within $50)	UNDERAWARD			OVERAWARD		
	Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
Less Than 18 (16.5% of Recipients)	57.0	12.7	229	7.3	30.3	320	24.2
18,19,20 (60.6% of Recipients)	57.6	9.6	286	25.2	32.8	547	164.6
Over 20 (22.9% of Recipients)	43.8	13.1	482	21.9	43.1	652	97.4

CHI-SQUARE: 22.254
DF: 2
P-VALUE: 0.0001

TABLE 6-8
PELL STUDENT ERROR BY IRS FILING STATUS FOR INDEPENDENT STUDENTS, 1985-86

IRS Filing Status	NO ERROR (Within $50) Percent	UNDERAWARD			OVERAWARD		
		Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
Did Not File (24.7% of Recipients)	93.7	1.2	535	2.0	5.1	550	8.9
Joint Return (32.2% of Recipients)	70.2	9.4	385	15.0	20.4	646	54.5
Single Or Separate Return (43.2% of Recipients)	83.1	7.6	317	13.4	9.3	711	27.3

CHI-SQUARE: 51.784
DF: 4
P-VALUE: 0.0001

these are the students who are married, are likely to have higher incomes, have the most complex financial profile, and, therefore, have the highest likelihood of error.

Table 6-9 indicates that, as suggested above, marital status is significantly associated with error. Pell student error occurred more frequently among married than non-married students. Table 6-10 indicates that effective family income, a measure of income that includes net taxable and non-taxable income, is also significantly associated with error. Pell student error occurred most frequently among students whose effective family income exceeded $8,000.

Institutional Characteristics

The single institutional characteristic significantly associated with Pell student error is institutional type and control. Table 6-11 presents the frequency and level of Pell student error by institutional type (2-year or 4-year) and control (public, private, or proprietary). Students attending private (either 2-year or 4-year) and proprietary institutions were more likely to have Pell student error than students at public institutions (either 2-year or 4-year).

TABLE 6-9
PELL STUDENT ERROR BY STUDENT'S MARITAL STATUS FOR INDEPENDENT STUDENTS, 1985-86

Reported Students' Marital Status	NO ERROR (Within $50) Percent	UNDERAWARD			OVERAWARD		
		Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
Married (31.3% of Recipients)	76.7	10.5	311	13.1	12.9	435	22.6
Not Married (68.7% of Recipients)	83.9	4.8	405	17.1	11.3	769	76.6

CHI-SQUARE: 10.012
DF: 2
P-VALUE: 0.0067

TABLE 6-10
PELL STUDENT ERROR BY EFFECTIVE FAMILY INCOME FOR INDEPENDENT STUDENTS, 1985-86

Effective Family Income ($)	NO ERROR (Within $50) Percent	UNDERAWARD Percent	UNDERAWARD Mean	UNDERAWARD Total ($ Millions)	OVERAWARD Percent	OVERAWARD Mean	OVERAWARD Total ($ Millions)
0-2,000 (36.8% of Recipients)	91.7	0.9	844	3.6	7.4	1,301	45.5
2,001-4,000 (17.0% of Recipients)	93.0	0.4	1,012	0.9	6.6	740	10.7
4,001-8,000 (18.7% of Recipients)	79.4	8.8	361	7.6	11.8	531	15.0
OVER 8,000 (27.6% of Recipients)	65.6	14.0	311	15.4	20.4	519	37.5

CHI-SQUARE: 70.993
DF: 6
P-VALUE: 0.0001

TABLE 6-11
PELL STUDENT ERROR BY INSTITUTION TYPE AND CONTROL,
1985-86

Type and Control	NO ERROR (Within $50) Percent	UNDERAWARD Percent	UNDERAWARD Mean	UNDERAWARD Total ($ Millions)	OVERAWARD Percent	OVERAWARD Mean	OVERAWARD Total ($ Millions)
2-Year Public (29.3% of Recipients)	76.7	8.0	351	23.0	15.3	504	63.2
4-Year Public (41.2% of Recipients)	67.7	8.1	289	27.0	24.2	547	152.6
2-Year Private (2.6% of Recipients)	64.3	5.8	235	1.0	29.9	411	8.9
4-Year Private (16.6% of Recipients)	53.6	14.2	390	25.7	32.2	511	76.4
Proprietary (10.3% of Recipients)	65.2	8.9	266	6.8	26.0	735	55.1

CHI-SQUARE: 57.750
DF: 8
P-VALUE: 0.0001

6.2.2 Characteristics Associated with Institutional Error in the Pell Grant Program

During the initial analyses of type of institution and institutional Pell error, we examined the relationship of control (private versus public) in association with error. During these analyses, control was not found to be meaningful in analyzing institutional error. The relationship between type of institution and institutional error rate was found to be important, while the relationship between control and error was not.

As is shown in Table 6-12 institutional type and control is significantly related to institutional error in the Pell Grant program. In particular, recipients at 4-year institutions (public or private) had a lower incidence of institutional Pell error than recipients at either 2-year (public or private) or proprietary institutions. Furthermore, recipients at 4-year institutions had a lower rate of underawards as well as overawards due to institutional errors than recipients at either 2-year or proprietary institutions. Because of small numbers of institutions in some categories, it was necessary to collapse institutions in the categories as we did.

In order to analyze the relationship between institutional error and the number of program recipients, we divided our analysis cases in quartiles for each of the respective programs. Table 6-13 shows that the

TABLE 6-12
INSTITUTIONAL PELL ERROR BY INSTITUTION TYPE AND CONTROL, 1985-86

Type and Control of Institution	NO ERROR (Within $50) Percent	UNDERAWARD			OVERAWARD		
		Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
2-Year (Public and Private) (31.9% of Recipients)	57.0	20.6	347	63.8	22.4	479	95.8
4-Year (Public and Private) (57.8% of Recipients)	79.5	6.0	294	28.5	14.5	498	116.8
Proprietary (10.3% of Recipients)	57.1	14.8	792	33.8	28.2	582	47.3

CHI-SQUARE: 136.476
DF: 4
P-VALUE: 0.0001

TABLE 6-13
INSTITUTIONAL PELL ERROR BY NUMBER OF PELL RECIPIENTS AT INSTITUTION, 1985-86

Number of Pell Recipients	NO ERROR (Within $50)	UNDERAWARD			OVERAWARD		
	Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
Less Than or Equal to 400 (26.6% of Recipients)	61.3	18.0	487	65.2	20.7	495	76.2
401-1,000 (25.1% of Recipients)	72.7	9.3	379	24.8	18.0	597	75.5
1,001-2,400 (24.0% of Recipients)	74.5	11.0	278	20.5	14.5	440	42.8
Greater Than 2,400 (24.2% of Recipients)	72.3	7.5	310	15.7	20.2	473	64.7

CHI-SQUARE: 42.000
DF: 6
P-VALUE: 0.0001

number of Pell recipients at the institution was found to be significantly related to institutional Pell error. In all three of the categories (overall, underawards, and overawards) recipients at institutions in the lowest quartile (400 or fewer Pell recipients) had the highest incidence of institutional error. Recipients at institutions in the third quartile (1,001-2,400 Pell recipients) tended to have a lower rate of institutional error, both overall and for overawards, than recipients at institutions in the three other quartiles (1,000 or fewer recipients or more that 2,400 Pell recipients). Recipients at institutions in the highest quartile (more than 2,400 recipients) had a lower rate of institutional underawards than recipients at institutions in the three lowest quartiles.

Because the number of Pell recipients is likely to be related to other institutional characteristics that might also affect institutional error rates, further analysis of this table will be required. The most obvious characteristics that might be related to the number of Pell recipients are the extent of automation used by the institution and the number of Aid Office staff members. Both of the characteristics have been analyzed against institutional error in tables later in this chapter.

As shown in Table 6-14, the academic calendar used by the institution is significantly related to institutional Pell error. In particular, recipients at institutions using an academic calendar based on semesters

TABLE 6-14
INSTITUTIONAL PELL ERROR BY
TYPE OF ACADEMIC CALENDAR,
1985-86

	NO ERROR	UNDERAWARD			OVERAWARD		
Type of Academic Calendar	(Within $50) Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
Semester (69.5% of Recipients)	78.2	8.7	306	51.8	13.1	498	126.8
Trimester or Quarter (18.5% of Recipients)	52.3	10.0	360	18.6	37.7	468	91.3
Clock-Hour (12.0% of Recipients)	49.7	31.0	540	56.2	19.3	632	40.9

CHI-SQUARE: 225.149
DF: 4
P-VALUE: 0.0001

had lower rates of institutional Pell error than recipients attending institutions with academic calendars based on either trimesters/quarters or clock-hours. This lower rate of institutional error held true for underawards as well as overawards. Conversely, recipients at clock-hour institutions had error rates significantly higher than recipients at schools with trimester/quarter academic calendars. Students at clock-hour schools had the highest rate of underawards and the second highest rate of overawards. This could be due to the fact that the process of determining enrollment status at clock-hour schools is very complex and more opportunities for error exist.

As shown in Table 6-15, the use of automated procedures is significantly related to institutional Pell error. Recipients at schools with middle to high levels of automation had significantly lower rates of institutional Pell error than recipients at either schools with low levels of automation or no automation at all. One interesting finding is that recipients attending schools with no automation had the highest overall institutional error rate.

Table 6-16 presents a breakdown of the number of clerical or data entry staff FTE's by institutional Pell error, and the number of professional staff FTE's by institutional Pell error. Both the number of clerical or data entry staff FTE's and the number of professional staff FTE's are significantly related to the amount of institutional Pell error.

TABLE 6-15
INSTITUTIONAL PELL ERROR BY USE OF AUTOMATED PROCEDURES, 1985-86

Use of Automated Procedures	NO ERROR (Within $50) Percent	UNDERAWARD			OVERAWARD		
		Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
No Automation (22.2% of Recipients)	60.9	22.8	473	67.0	16.3	572	57.9
Low Automation (17.2% of Recipients)	65.8	9.7	374	17.5	24.5	490	57.8
Mid Automation (33.6% of Recipients)	74.6	8.7	281	23.0	16.7	469	73.6
High Automation (27.0% of Recipients)	74.4	7.1	347	18.6	18.5	504	70.4

CHI-SQUARE: 6.706
DF: 2
P-VALUE: 0.0350

TABLE 6-16
INSTITUTIONAL PELL ERROR BY PROFESSIONAL AND CLERICAL/DATA ENTRY STAFF FTE's, 1985-86

Professional Staff FTE's	NO ERROR	UNDERAWARD			OVERAWARD		
	(Within $50) Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
Less Than 5 (67.9% of Recipients)	68.1	12.8	418	101.6	19.1	528	191.6
5 or Above (32.1% of Recipients)	75.2	8.3	317	23.6	16.4	442	65.1

CHI-SQUARE: 11.416
DF: 2
P-VALUE: 0.0033

Clerical or Data Entry Staff FTE's	NO ERROR	UNDERAWARD			OVERAWARD		
	(Within $50) Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
Less Than 4 (57.4% of Recipients)	66.7	13.2	434	92.0	20.1	528	170.4
4 or Above (42.6% of Recipients)	73.7	10.0	302	36.0	16.3	459	89.2

CHI-SQUARE: 10.888
DF: 2
P-VALUE: 0.0043

In the case of clerical or data entry staff FTE's, recipients attending schools that had four or more clerical or data entry staff FTE's had a significantly lower institutional error rate than recipients attending institutions with fewer than four clerical or data entry staff FTE's. Likewise, recipients attending institutions with five or more professional staff FTE's had significantly lower rates of institutional Pell error than recipients at institutions with fewer than five professional staff FTE's.

During initial analyses on the number of staff members, we tried controlling for the number of recipients through analyzing institutional Pell error by the ratio of recipients per staff member. We did not find this ratio to be related to institutional Pell error. The fact that the absolute number of staff members is associated with error and not a proxy for the workload of those staff members suggests, when studied in conjunction with Table 6-15 (Use of Automation by Institutional Pell Error), that there may be some economies of scale involved in the delivery of aid. That is, a one-person office delivering aid to 350 recipients cannot operate as efficiently as a 10-person office delivering aid to 3,500 recipients.

6.3 CHARACTERISTICS ASSOCIATED WITH STUDENT AND INSTITUTIONAL NEED ERROR IN THE CAMPUS-BASED PROGRAMS

Many of the characteristics that were associated with student and institutional error in the Pell program are also associated with student and institutional need error in the Campus-Based programs. The following is a list of the characteristics we found to be associated with Campus-Based student and institutional need errors.

Characteristics of Dependent Students Associated With Campus-Based Student Need Error.

- Parents' tax filing status
- Parents' marital status
- Effective family income
- Household size
- Number in household enrolled in postsecondary education

Characteristics of Independent Students Associated With Campus-Based Student Need Error.

- Students' tax filing status
- Student's marital status
- Effective family income
- Household size

Institutional Characteristics Associated with Campus-Based Student Need Error.

- Type and control of the institution

Institutional Characteristics Associated With Institutional Campus-Based Need Error.

- Type and control of the institution
- Number of Campus-Based recipients
- Academic calendar
- Use of automated procedures
- Number of clerical or data entry FTE's
- Number of professional staff FTE's

6.3.1 Characteristics Associated With Student Need Error in the Campus-Based Programs.

Analysis of student characteristics associated with student need error in the Campus-Based programs was conducted by dependency status, as in the analysis of Pell student error. Five student characteristics are

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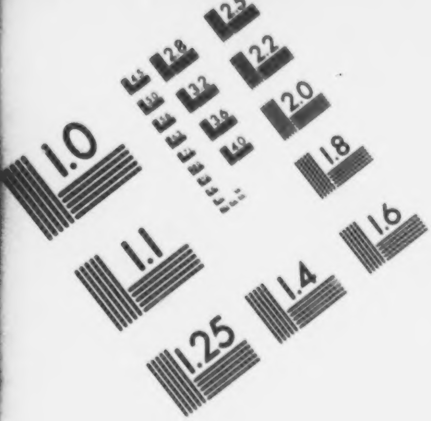

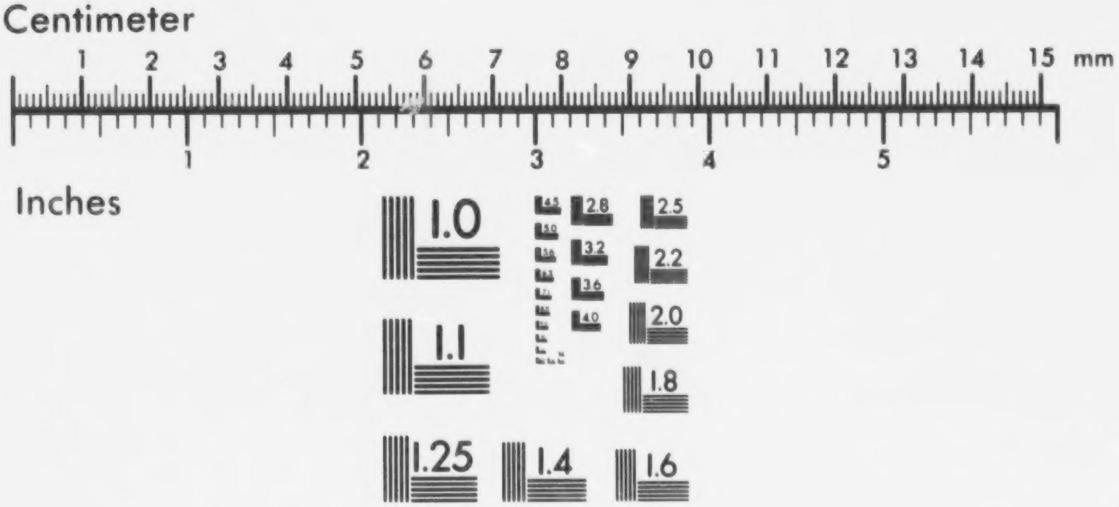
Centimeter
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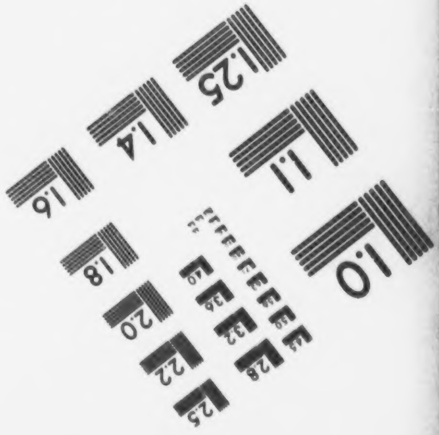

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significantly associated with need error for dependent students and four characteristics for independent students.

Dependent Students

Parents' filing status is significantly associated with Campus-Based student need error. Table 6-17 indicates that student need error occurred most frequently in families of dependent students filing joint returns. These families are likely to have relatively complex financial profiles and have higher income.

Parents' marital status is also significantly associated with student need error. Table 6-18 indicates that student need error occurred most frequently among students whose parents were married. In addition, effective family income is significantly associated with need error. Table 6-19 indicates that need error generally increases with income and occurred most frequently among the students whose families' effective family income was over $20,000.

Two other student characteristics, household size and number in college, are significantly associated with Campus-Based student need error. Table 6-20 indicates that student need error occurred most frequently among students whose families reported four or five members in the household, although families reporting a household size of at least three had a higher frequency of error than those reporting two. Similarly, need error occurred most frequently among families reporting

TABLE 6-17
CAMPUS-BASED STUDENT NEED ERROR BY PARENTS' IRS FILING STATUS FOR DEPENDENT STUDENTS, 1985-86

Parents' IRS Filing Status	NO ERROR (Within $50) Percent	UNDERSTATEMENT Percent	UNDERSTATEMENT Mean	UNDERSTATEMENT Total ($ Millions)	OVERSTATEMENT Percent	OVERSTATEMENT Mean	OVERSTATEMENT Total ($ Millions)
Did Not File (7.2% of Recipients)	60.1	16.0	802	7.7	23.9	654	9.4
Joint Return (68.5% of Recipients)	32.1	23.9	590	80.4	44.1	928	233.4
Single or Separate Return (14.3% of Recipients)	42.2	25.8	590	18.1	32.1	775	29.6

CHI-SQUARE: 38.540
DF: 4
P-VALUE: 0.0001

TABLE 6-18
CAMPUS-BASED STUDENT NEED ERROR BY PARENTS' MARITAL STATUS FOR DEPENDENT STUDENTS, 1985-86

Parents' IRS Marital Status	NO ERROR (Within $50) Percent	UNDERSTATEMENT Percent	UNDERSTATEMENT Mean	UNDERSTATEMENT Total ($ Millions)	OVERSTATEMENT Percent	OVERSTATEMENT Mean	OVERSTATEMENT Total ($ Millions)
Married (69.5% of Recipients)	33.9	23.3	533	71.9	42.8	819	202.8
Not Married (30.5% of Recipients)	47.3	22.8	669	38.7	30.0	766	58.4

CHI-SQUARE: 18.680
DF: 2
P-VALUE: 0.0001

TABLE 6-19
CAMPUS-BASED STUDENT NEED ERROR BY EFFECTIVE FAMILY INCOME FOR DEPENDENT STUDENTS, 1985-86

	NO ERROR	UNDERSTATEMENT			OVERSTATEMENT		
Effective Family Income ($)	(Within $50) Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
0-10,000 (21.4% of Recipients)	65.9	11.3	635	12.8	22.8	664	27.0
10,001-15,000 (17.4% of Recipients)	45.5	28.5	479	19.8	26.1	687	26.0
15,001-20,000 (17.6% of Recipients)	34.6	31.0	417	18.9	34.4	598	30.1
OVER 20,000 (43.6% of Recipients)	22.3	23.3	696	58.9	54.3	912	179.8

CHI-SQUARE: 148.176
DF: 6
P-VALUE: 0.0001

TABLE 6-20
CAMPUS-BASED STUDENT NEED ERROR BY REPORTED HOUSEHOLD SIZE FOR DEPENDENT STUDENTS, 1985-86

Reported Household Size	NO ERROR (Within $50) Percent	UNDERSTATEMENT Percent	UNDERSTATEMENT Mean	UNDERSTATEMENT Total ($ Millions)	OVERSTATEMENT Percent	OVERSTATEMENT Mean	OVERSTATEMENT Total ($ Millions)
Two (8.3% of Recipients)	53.8	17.4	543	6.5	28.9	860	17.2
Three (20.8% of Recipients)	39.9	23.3	528	21.3	36.7	542	34.4
Four or Five (49.2% of Recipients)	33.6	25.2	682	70.4	41.3	954	161.4
Six or More (21.7% of Recipients)	39.5	20.0	343	12.4	40.6	682	50.0

CHI-SQUARE: 14.997
DF: 6
P-VALUE: 0.0203

two family members in college. Table 6-21 indicates that families reporting one member in college had the lowest frequency of error. The relationship between error and household size and number in college is not linear as is the case with income.

Independent Students

Four student characteristics are significantly associated with student need error in the Campus-Based programs. Similar to dependent students, independent student's filing (tax) status is associated with error. Table 6-22 indicates that student need error occurred most frequently among independent students filing joint tax returns. These students are most likely to be married and therefore have a more complex financial profile which can contribute to error. Similarly, independent students' marital status was also significantly associated with error. Table 6-23 indicates that student need error occurred more frequently among married independent students. Table 6-24 shows that the effective family income of independent students was significantly associated with student need error. This table shows that students with higher effective family incomes tended to have higher rates of student need error. Independent students whose effective family income was $4,001 to $8,000 had the highest overall rate of student need error (81.9 percent).

Table 6-25 indicates that household size is significantly associated with student need error, and that error occurs most frequently in students reporting a household size of three or more. Students reporting a household size of one had the lowest frequency. The error in

TABLE 6-21
CAMPUS-BASED STUDENT NEED ERROR BY REPORTED NUMBER IN COLLEGE FOR DEPENDENT STUDENTS, 1985-86

Reported Number in College	NO ERROR (Within $50) Percent	UNDERSTATEMENT Percent			OVERSTATEMENT Percent		
		Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
One (58.7% of Recipients)	42.6	23.0	503	56.5	34.4	706	118.7
Two (32.8% of Recipients)	29.5	23.3	738	47.0	47.2	1,002	129.2
Three or More (8.5% of Recipients)	36.9	22.1	453	7.1	41.0	518	15.0

CHI-SQUARE: 19.042
DF: 4
P-VALUE: 0.0008

TABLE 6-22
CAMPUS-BASED STUDENT NEED ERROR BY IRS FILING STATUS FOR INDEPENDENT STUDENTS, 1985-86

	NO ERROR	UNDERSTATEMENT			OVERSTATEMENT		
IRS Filing Status	(Within $50) Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
Did Not File (24.0% of Recipients)	44.6	13.7	972	14.3	41.7	1,486	66.6
Joint Return (22.5% of Recipients)	18.8	25.5	1,770	45.4	55.7	2,106	118.1
Single or Separate Return (53.4% of Recipients)	34.7	17.5	966	40.4	47.8	1,353	154.6

CHI-SQUARE: 20.204
DF: 4
P-VALUE: 0.0005

TABLE 6-23
CAMPUS-BASED STUDENT NEED ERROR BY STUDENTS' MARITAL STATUS FOR INDEPENDENT STUDENTS, 1985-86

Students' Marital Status	NO ERROR (Within $50) Percent	UNDERSTATEMENT Percent	UNDERSTATEMENT Mean	UNDERSTATEMENT Total ($ Millions)	OVERSTATEMENT Percent	OVERSTATEMENT Mean	OVERSTATEMENT Total ($ Millions)
Married (21.4% of Recipients)	22.5	23.5	1,742	39.2	54.0	2,062	106.6
Not Married (78.6% of Recipients)	36.6	16.8	1,025	60.6	46.6	1,424	233.4

CHI-SQUARE: 6.450
DF: 2
P-VALUE: 0.0398

TABLE 6-24
CAMPUS-BASED STUDENT NEED ERROR BY EFFECTIVE FAMILY INCOME FOR INDEPENDENT STUDENTS, 1985-86

Effective Family Income ($)	NO ERROR (Within $50) Percent	UNDERSTATEMENT Percent	UNDERSTATEMENT Mean	UNDERSTATEMENT Total ($ Millions)	OVERSTATEMENT Percent	OVERSTATEMENT Mean	OVERSTATEMENT Total ($ Millions)
0-2,000 (52.1% of Recipients)	44.2	9.1	617	13.1	46.8	1,722	187.9
2,001-4,000 (15.3% of Recipients)	20.7	27.4	597	11.2	51.9	1,355	48.2
4,001-8,000 (16.8% of Recipients)	12.1	38.2	1,262	36.2	49.7	1,553	58.0
OVER 8,000 (15.8% of Recipients)	19.0	31.2	1,914	42.2	49.9	1,651	58.3

CHI-SQUARE: 73.557
DF: 6
P-VALUE: 0.0001

TABLE 6-25
CAMPUS-BASED STUDENT NEED ERROR BY REPORTED HOUSEHOLD SIZE FOR INDEPENDENT STUDENTS, 1985-86

Reported Household Size	NO ERROR (Within $50) Percent	UNDERSTATEMENT Percent	UNDERSTATEMENT Mean	UNDERSTATEMENT Total ($ Millions)	OVERSTATEMENT Percent	OVERSTATEMENT Mean	OVERSTATEMENT Total ($ Millions)
One (57.9% of Recipients)	38.4	16.5	832	35.6	45.1	1,378	161.0
Two (16.6% of Recipients)	26.3	29.7	1,295	28.6	43.9	1,708	55.7
Three or More (25.5% of Recipients)	18.4	22.4	1,628	41.6	59.2	2,058	139.0

CHI-SQUARE: 24.398
DF: 4
P-VALUE: 0.0001

Table 6-25, in which the frequency of error increases with household size, is slightly similar to dependent students (Table 6-20), in which it increases after a household size of two.

Institutional Characteristics

As in Pell, the single institutional characteristic significantly associated with Campus-Based student need error is type and control of institution. Student need error occurred most frequently among students who attend private institutions. Table 6-26 presents these data.

6.3.2 Characteristics Associated with Institutional Need Error in the Campus-Based Programs

The institutional characteristics associated with institutional error in the Pell Grant program (analyzed in Section 6.2.2) are also the characteristics that are associated with institutional need error in the Campus-Based programs.

As seen in Table 6-27, institutional type and control was significantly related to institutional Campus-Based need error. The pattern shown in Table 6-27 follows the same pattern exhibited by the analysis of institutional error with respect to institution type and control in the Pell program. Recipients attending 4-year institutions (public or private) had significantly lower rates of institutional need error than recipients attending either 2-year (public to private) or proprietary institutions.

TABLE 6-26
CAMPUS-BASED STUDENT NEED ERROR BY INSTITUTION TYPE AND CONTROL, 1985-86

Type and Control	NO ERROR (Within $50)	UNDERSTATEMENT			OVERSTATEMENT		
	Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
2-Year Public (16.7% of Recipients)	39.8	18.6	1,038	41.3	41.6	1,091	97.0
4-Year Public (43.2% of Recipients)	38.0	20.8	573	65.9	41.2	1,055	240.4
2-Year Private (2.1% of Recipients)	28.7	42.9	949	10.9	28.4	1,700	13.0
4-Year Private (33.6% of Recipients)	30.1	23.6	790	80.2	46.4	1,170	233.5
Proprietary (4.3% of Recipients)	40.3	25.5	1,267	17.8	34.2	1,854	34.9

CHI-SQUARE: 22.149
DF: 8
P-VALUE: 0.0046

TABLE 6-27
INSTITUTIONAL CAMPUS-BASED NEED ERROR BY INSTITUTION TYPE AND CONTROL, 1985-86

	NO ERROR	UNDERSTATEMENT			OVERSTATEMENT		
Type and Control of Institution	(Within $50) Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
2-Year (Public and Private) (19.0% of recipients)	56.8	24.4	566	33.6	18.8	791	36.2
4-Year (Public and Private) (76.8% of recipients)	72.4	11.3	747	83.0	16.3	1,098	176.0
Proprietary (4.2% of recipients)	51.7	29.9	605	9.7	18.4	1,446	14.3

CHI-SQUARE: 23.284
DF: 2
P-VALUE: 0.0001

Table 6-28 shows that the number of Campus-Based recipients at an institution was associated with the levels of institutional Campus-Based need error. Those recipients at institutions in the highest quartile (over 1,900 Campus-Based recipients) had the lowest overall rate of institutional Campus-Based need error in addition to the lowest rate of institutional Campus-Based understatements. Recipients at institutions in the third quartile (801-1,900 Campus-Based recipients) had the lowest rate of institutional Campus-Based overstatements. Recipients at institutions in the lowest quartile (less than 301 Campus-Based recipients) had the highest rate of overall institutional Campus-Based error.

Table 6-29 shows the relationships between the academic calendar used by the institution and institutional Campus-Based need error. As with institutional Pell error, recipients at institutions where the academic calendar is based on semesters had the lowest rate of institutional Campus-Based need error. Recipients attending trimester or quarter institutions had the highest incidence of institutional understatements, while recipients at clock-hour schools had the highest rate of institutional overstatements.

The relationship between institutional Campus-Based need error and the use of automated procedures by the institution is presented in Table 6-30. Recipients at institutions that had middle or high levels of automation had institutional Campus-Based need error rates that were significantly lower than recipients attending either institutions that had low levels of automation or no automation at all.

TABLE 6-28
INSTITUTIONAL CAMPUS-BASED NEED
ERROR BY THE NUMBER OF CAMPUS-BASED RECIPIENTS
AT THE INSTITUTION,
1985-86

Number of Campus-Based Recipients	NO ERROR (Within $50) Percent	UNDERSTATEMENT Percent	UNDERSTATEMENT Mean	UNDERSTATEMENT Total ($ Millions)	OVERSTATEMENT Percent	OVERSTATEMENT Mean	OVERSTATEMENT Total ($ Millions)
Less Than 301 (25.6% of recipients)	64.0	19.3	768	48.6	16.7	1,366	74.8
301-800 (21.9% of recipients)	66.9	12.6	650	23.0	20.6	1,203	69.5
801-1,900 (24.6% of recipients)	68.8	16.2	536	27.3	15.0	817	38.6
Over 1,900 (27.6% of recipients)	74.6	9.6	791	26.8	15.8	825	46.1

CHI-SQUARE: 22.384
DF: 6
P-VALUE: 0.0010

TABLE 6-29
INSTITUTIONAL CAMPUS-BASED NEED ERROR BY ACADEMIC CALENDAR, 1985-86

Academic Calendar	NO ERROR (Within $50) Percent	UNDERSTATEMENT Percent	UNDERSTATEMENT Mean	UNDERSTATEMENT Total ($ Millions)	OVERSTATEMENT Percent	OVERSTATEMENT Mean	OVERSTATEMENT Total ($ Millions)
Semester (77.1% of recipients)	72.4	11.6	746	85.4	16.0	1,037	163.8
Trimester or Quarter (17.6% of recipients)	53.7	28.2	564	35.8	18.1	1,111	45.3
Clock-Hour (5.3% of recipients)	62.4	12.1	588	4.8	25.5	1,016	17.6

CHI-SQUARE: 59.657
DF: 4
P-VALUE: 0.0001

TABLE 6-30
INSTITUTIONAL CAMPUS-BASED NEED ERROR BY USE OF AUTOMATED PROCEDURES, 1985-86

Use of Automated Procedures	NO ERROR (Within $50) Percent	UNDERSTATEMENT			OVERSTATEMENT		
		Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
No Automation (14.9% of recipients)	64.2	17.2	551	18.1	18.6	782	27.7
Low Automation (11.7% of recipients)	59.8	18.1	1,026	27.8	22.1	1,371	45.4
Mid Automation (37.2% of recipients)	71.7	12.9	578	35.5	15.5	1,019	75.2
High Automation (36.2% of recipients)	69.9	14.1	689	45.0	16.0	1,063	78.8

CHI-SQUARE: 11.111
DF: 2
P-VALUE: 0.0039

As is shown in Table 6-31, the number of full-time equivalent employees (FTE's) for both clerical/data entry personnel and professional staff are significantly related to institutional Campus-Based need error. Recipients attending institutions that had more clerical or data entry FTE's (four or more) had lower rates of institutional Campus-Based understatements as well as overstatements than recipients at institutions with fewer clerical or data entry FTE's (less than four). The same relationship also existed for the number of professional staff FTE's. Recipients at institutions with a higher number of professional staff FTE's (five or more) had lower rates of institutional understatements and overstatements than recipients attending schools with lower numbers of professional staff FTE's (less than five). As was the case with institutional Pell error, the number of FTE's was significantly related to institutional Campus-Based need error while the ratio of total staff FTE's to the number of Campus-Based recipients was not.

6.4 CHARACTERISTICS ASSOCIATED WITH STUDENT AND INSTITUTIONAL ERROR IN THE GSL PROGRAM

Those characteristics associated with GSL student and institutional certification error were slightly different from the characteristics presented in the previous sections for the Pell and Campus-Based programs. No characteristics of independent students were associated with GSL student error. This is not surprising since the vast majority of independent students have incomes under $30,000 where there is no EFC and almost no opportunity for student error. (Based on changes made in reauthorization of the Higher Education Act, all students will go through need analysis in the future. This change was not in place for the

TABLE 6-31
INSTITUTIONAL CAMPUS-BASED NEED ERROR BY PROFESSIONAL AND CLERICAL/DATA ENTRY STAFF FTE's, 1985-86

Professional Staff FTE's	NO ERROR (Within $50) Percent	UNDERSTATEMENT Percent	UNDERSTATEMENT Mean	UNDERSTATEMENT Total ($ Millions)	OVERSTATEMENT Percent	OVERSTATEMENT Mean	OVERSTATEMENT Total ($ Millions)
Less Than 5 (59.4% of recipients)	66.3	15.8	642	77.1	17.9	1,208	164.4
5 and Above (40.6% of recipients)	71.8	12.9	788	52.8	15.3	841	66.9

CHI-SQUARE: 12.501
DF: 2
P-VALUE: 0.0019

Chemical or Data Entry Staff FTE's	NO ERROR (Within $50) Percent	UNDERSTATEMENT Percent	UNDERSTATEMENT Mean	UNDERSTATEMENT Total ($ Millions)	OVERSTATEMENT Percent	OVERSTATEMENT Mean	OVERSTATEMENT Total ($ Millions)
Less Than 4 (49.8% of recipients)	66.1	16.1	658	67.5	17.8	1,247	141.5
4 and Above (50.2% of recipients)	70.9	13.2	724	61.4	15.9	860	87.9

CHI-SQUARE: 20.978
DF: 2
P-VALUE: 0.0001

1985-86 academic year, the year of the study.) The characteristics we found to be significantly associated with student and institutional GSL error are listed below.

Characteristics of Dependent Students Associated With GSL Student Certification Error.

- **Parents' tax filing status**
- **Parents' marital status**
- **Household size**
- Students' year in college

Characteristics of Independent Students Associated With GSL Student Certification Error.

- None

Institutional Characteristics Associated with GSL Student Certification Error.

- Type and Control of Institution

Institutional Characteristics Associated With Institutional GSL Certification Error.

- Type and Control of Institution
- Number of GSL recipients
- Academic calendar
- Need analysis system

6.4.1 Characteristics Associated With Student Error in the GSL Program

Student error resulting in overcertification, which is caused by a change in EFC, can occur in only those students whose best family AGI is greater than $30,000. Therefore, student overcertification error occurs less frequently in GSL than other Title IV programs and could result in fewer characteristics significantly associated with error being identified. Four such characteristics have been identified.

Dependent Students

As in the Pell and Campus Based programs, parents' (tax) filing status and marital status are significantly associated with error. Table 6-32 indicates that student GSL error occurred most frequently among parents of dependent students filing a joint tax return. Table 6-33 indicates that student GSL error occurred most frequently among students whose parents were married. Two other student characteristics are significantly associated with student GSL error. Table 6-34 indicates that student GSL error occurred most frequently among dependent students whose family reported a household size of four or five. Those reporting two had the lowest frequency of error. In addition, reported year in college is significantly associated with error. Table 6-35 indicates that student GSL error occurred most frequently among fifth year undergraduates, professional, and graduate students.

Independent Students

Due in part to the relative infrequency of independent students with income over $30,000, no student characteristics were significantly associated with student GSL certification error.

TABLE 6-32
GSL STUDENT CERTIFICATION ERROR BY PARENTS' IRS FILING STATUS FOR DEPENDENT STUDENTS, 1985-86

IRS Filing Status	NO ERROR (Within $50) Percent	OVERCERTIFICATION Percent	Mean	Total ($ Millions)*
Did Not File (3.8% of Recipients)	99.5	0.5	150	0.1
Joint Return (79.3% of Recipients)	79.5	20.5	900	340.7
Single or Separate Return (17.0% of Recipients)	97.4	2.6	1,237	12.7

CHI-SQUARE: 32.670
DF: 2
P-VALUE: 0.0001

* Due to revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

TABLE 6-33
GSL STUDENT CERTIFICATION ERROR BY PARENTS' MARITAL STATUS FOR DEPENDENT STUDENTS, 1985-86

Parents' Marital Status	NO ERROR (Within $50) Percent	OVERCERTIFICATION Percent	Mean	Total ($ Millions)*
Married (79.5% of Recipients)	79.9	20.1	851	316.7
Not Married (20.5% of Recipients)	97.7	2.3	1,237	13.6

CHI-SQUARE: 20.158
DF: 1
P-VALUE: 0.0001

* Due to revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

TABLE 6-34
GSL STUDENT CERTIFICATION ERROR BY HOUSEHOLD SIZE FOR DEPENDENT STUDENTS, 1985-86

Household Size	NO ERROR (Within $50) Percent	OVERCERTIFICATION Percent	OVERCERTIFICATION Mean	OVERCERTIFICATION Total ($ Millions)*
Two (7.2% of Recipients)	99.5	0.5	300	0.3
Three (24.1% of Recipients)	88.9	11.1	1,337	83.3
Four or Five (53.7% of Recipients)	77.6	22.4	877	245.7
Six or More (15.1% of Recipients)	86.9	13.1	528	24.3

CHI-SQUARE: 27.105
DF: 3
P-VALUE: 0.001

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* Due to revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

TABLE 6-35
GSL STUDENT CERTIFICATION ERROR BY REPORTED YEAR IN COLLEGE FOR DEPENDENT STUDENTS, 1985-86

Reported Year in College	NO ERROR (Within $50) Percent	OVERCERTIFICATION Percent	Mean	Total* ($ Millions)
Freshman (32.5% of Recipients)	83.8	16.2	1,152	141.3
Sophomore (30.5% of Recipients)	84.2	15.8	741	83.2
Junior (17.9% of Recipients)	78.8	21.2	743	65.7
Senior (11.0% of Recipients)	84.9	15.2	1,065	41.5
Other** (8.0% of Recipients)	59.8	40.2	928	69.5

CHI-SQUARE: 19.758
DF: 4
P-VALUE: 0.006

---

* Due to revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

** 'Other' includes fifth year undergraduates, professional students, and graduate students.

Institutional Characteristics

As in the analysis of institutional characteristics associated with student error in the Pell and Campus-Based programs, a similar institutional characteristic is significantly associated with student GSL certification error. Table 6-36 indicates that institutional control is significantly associated with student GSL certification error. Student error occurred most frequently at private institutions. This pattern may be due to the fact that higher income students (e.g., over $30,000), who are subject to need analysis and therefore are more likely to have errors in student data, more frequently attend private institutions.

6.4.2 Characteristics Associated With Institutional GSL Certification Error

While the characteristics associated with institutional error were the same for both the Pell and Campus-Based programs, the results were completely different for the GSL program. This could be due to several factors including the different institutional requirements and responsibilities in the GSL program or the difficulty of collecting accurate GSL data.

Table 6-37 shows that recipients at proprietary schools had the lowest level of institutional GSL overcertifications, while recipients attending 4-year schools (public or private) had the highest level of

TABLE 6-36
GSL STUDENT CERTIFICATION ERROR BY INSTITUTION TYPE AND CONTROL, 1985-86

Type and Control	NO ERROR (Within $50) Percent	OVERCERTIFICATION Percent	Mean	Total ($ Millions)*
2 Year Public (11.9% of Recipients)	95.3	4.7	834	18.4
4 Year Public (40.5% of Recipients)	90.1	9.9	832	131.3
2 Year Private (1.7% of Recipients)	76.2	23.8	735	11.7
4 Year Private (31.5% of Recipients)	86.3	13.7	1,283	217.8
Proprietary (14.5% of Recipients)	91.4	8.7	1,270	63.0

CHI-SQUARE: 16.158
DF: 4
P-VALUE: 0.0028

* Due to revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

TABLE 6-37
INSTITUTIONAL GSL CERTIFICATION ERROR BY INSTITUTION TYPE AND CONTROL, 1985-86

Type and Control of Institution	NO ERROR (Within $50) Percent	OVERCERTIFICATION		
		Percent	Mean	Total ($ Millions)*
2 Year (Public and Private) (13.6% of Recipients)	89.3	10.7	590	33.8
4 Year (Public and Private) (71.9% of Recipients)	83.4	16.6	1,337	627.9
Proprietary (14.5% of Recipients)	95.8	4.2	1,833	43.9

CHI-SQUARE: 23.284
DF: 2
PP-VALUE: 0.0001

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* Due to revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

institutional GSL overcertifications. These results are opposite from those encountered in the Pell and Campus-Based programs. A possible reason for this reversal is that proprietaries typically deal only with Pell and GSL awards, while other schools deal with all Federal programs as well as state, institutional, and private aid where the chance for error is greater.

As is shown in Table 6-38 recipients attending institutions in the lowest quartile of number of GSL recipients (less than 401) had the lowest rate of institutional overcertifications. Recipients at institutions in the third quartile (1,101-4,000 GSL recipients) had the highest incidence of institutional GSL overcertifications. Where larger schools tended to exhibit lower rates of institutional error in the Pell and Campus-Based programs, the smallest schools had the lowest rates in the GSL program.

The relationship between institutional GSL overcertifications and the academic calendar used by the institution is presented in Table 6-39. Once again, the results in this table are opposite of the results in the similar Pell and Campus-Based analyses. Recipients at clock-hour institutions had the lowest rate of institutional GSL certification error. Conversely, recipients attending 4-year schools had the highest rate of institutional GSL overcertifications.

Table 6-40 shows that the GSL need analysis system used by an institution is related to level of institutional GSL certification

TABLE 6-38
INSTITUTIONAL GSL CERTIFICATION ERROR BY THE NUMBER OF GSL RECIPIENTS AT THE INSTITUTION, 1985-86

Number of GSL Recipients	NO ERROR (Within $50) Percent	OVERCERTIFICATION Percent	Mean	Total ($ Millions)*
Less Than 401 (20.5% of Recipients)	91.4	8.6	1,672	116.0
401-1,100 (26.2% of Recipients)	87.7	12.3	1,130	143.3
1,101-4,000 (29.1% of Recipients)	80.4	19.6	1,366	306.5
More Than 4,000 (24.2% of Recipients)	86.0	14.0	1,076	143.4

CHI-SQUARE: 18.126
DF: 3
P-VALUE: 0.0004

* Due to revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

TABLE 6-39
INSTITUTIONAL GSL CERTIFICATION ERROR BY ACADEMIC CALENDAR, 1985-86

Academic Calendar	NO ERROR (Within $50) Percent	OVERCERTIFICATION Percent	Mean	Total ($ Millions)*
Semester (68.9% of Recipients)	84.4	15.6	1,299	549.3
Trimester or Quarter (20.5% of Recipients)	86.3	13.7	1,131	125.0
Clock-Hour (10.6% of Recipients)	95.8	4.2	1,776	31.1

CHI-SQUARE: 13.731
DF: 2
P-VALUE: 0.0010

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* Due to revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

TABLE 6-40
INSTITUTIONAL GSL CERTIFICATION ERROR BY GSL NEED ANALYSIS SYSTEM, 1985-86

	NO ERROR (Within $50)	OVERCERTIFICATION		
GSL Need Analysis System	Percent	Percent	Mean	Total ($ Millions)*
AGI Less Than $30,000 (69.2% of Recipients)	92.4	7.6	1,262	261.1
GSL Tables (20.2% of Recipients)	63.5	36.5	1,339	388.4
Campus-Based Need Analysis (10.6% of Recipients)	87.5	12.5	1,032	53.8

CHI-SQUARE: 150.817
DF: 2
P-VALUE: 0.0001

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* Due to revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

error. Recipients whose adjusted gross income was less than $30,000 had the lowest level of institutional GSL overcertifications. Recipients who attended institutions using the GSL Tables had the highest levels of institutional overcertifications. Because the most extensive institutional GSL error is that of determining EFC, these results are not surprising. However, this table suggests that institutions continue to have problems using the GSL Tables despite attempts by the Department to improve the tables.

6.5 CHARACTERISTICS SIGNIFICANTLY ASSOCIATED WITH ERROR USING MULTIVARIATE ANALYSIS

To identify the critical determinants of error, we must be able to estimate the relationship between the individual explanatory factors and the existence of error. In order to accomplish this, the impact of a given explanatory factor must be estimated controlling for the effects of other relevant factors. In particular, we want to estimate the impact of the significant characteristics on the likelihood of error, while controlling for other characteristics. Because it is necessary to control for other factors, we needed to use multivariate techniques to estimate the models. The bivariate analyses presented in this chapter, while not appropriate for estimating the models, were useful in helping to specify the multivariate models that we tested.

Regression analysis is generally considered one of the best statistical techniques for hypothesis testing in a multivariate framework, and therefore, is appropriate in our case where we have prior hypotheses concerning the relationship between the dependent and independent variables. The outcome measure used in the equations was the probability of an error occurring. The dependent variable is, therefore, dichotomous, with a one coded if an error of over $50 was present and a zero otherwise. The use of a continuous dependent variable, (i.e., the level of error) is not proper in this situation because the large number of cases without error would tend to distort the regression results. The Ordinary Least Squares (OLS) regression procedure contains several estimation problems when the dependent variable is dichotomous. These problems include a heteroskedastic error term and the possibility of preciting probabilities of over 100 percent or probabilities which are negative. Therefore, in order to estimate the models with a dichotomous dependent variable, we used the logistic multiple regression procedure, which overcomes the problems associated with the OLS procedure, relating the occurrence of errors as dependent variables to the explanatory variables.

The models used the characteristics that were significant in the bivariate analyses (with the exception of marital status because it was correlated with tax filing status), and validation status as independent or explanatory variables.

Many of the characteristics that were associated with student error could also be related to more important characteristics (e.g. effective family income). Therefore, in a simple bivariate analysis these characteristics may appear as significant, yet when controlling for income and other important characteristics in a multivariate analysis they might, in fact, not be significant. As stated earlier, in order to test if this was the case, we ran a multivariate regression model controlling for the characteristics and validation status. As we suspected, a number of the characteristics that were significant in the bivariate analyses were not significant in the multivariate analysis. The items that were no longer significant differed by program and dependency status of the student, but included items such as date of application, type and control of institution, and filing status of the student or parents. Tables 6-41 and 6-42 summarize the results of our analysis for Pell dependent and independent recipients, respectively, and Tables 6-43 and 6-44 present the results for Campus-Based dependent and independent recipients. In general, Tables 6-41 through 6-44 show that many factors that were significant using bivariate analysis were correlated with effective family income.

The significant relationships listed in Tables 6-41 through 6-44 for the multivariate models do not imply an increase or a decrease in the likelihood of the particular error, but only a significant relationship. Therefore, while the student's age is significantly associated with error for Pell dependents as shown in Table 6-41, the significance does not imply an increase or decrease in the likelihood of an overaward or underaward for students 18, 19, or 20, but only that the likelihood of students 18, 19, or 20 to have an overaward or underaward is significantly different from students over 20.

TABLE 6-41

CHARACTERISTICS SIGNIFICANTLY ASSOCIATED WITH PELL STUDENT ERROR USING BIVARIATE AND MULTIVARIATE ANALYSIS, DEPENDENT STUDENTS, 1985-86

CHARACTERISTICS TESTED AS SIGNIFICANT USING BIVARIATE ANALYSIS	SIGNIFICANCE* USING MULTIVARIATE ANALYSIS
Parents' Tax Filing Status	
Did Not File	Not significant
Joint Return	Not significant
Single or Separate Return**	N/A
Date of Application	
Before June 1, 1985	Not significant
On or After June 1, 1985**	N/A
Parents' Marital Status	Due to problems with collinearity with Tax Filing Status, this variable was not included in the regression.
Effective Family Income	Overawards (+) and Underawards (+)
Household Size	
Two	Underawards only (+)
Three	Not significant
Four or Five**	N/A
Six or More	Overawards only (-)
Number in College	
One**	N/A
Two	Not significant
Three or More	Underawards only (-)

* At at least the .05 level, significant variables with "+" notation indicate an increased probability of the corresponding error and variables with "-" notation indicate a decreased probability of error.

** These values were omitted from the regression and are captured in the intercept.

TABLE 6-41 (Continued)

CHARACTERISTICS SIGNIFICANTLY ASSOCIATED WITH PELL STUDENT ERROR USING BIVARIATE AND MULTIVARIATE ANALYSIS, DEPENDENT STUDENTS, 1985-86

CHARACTERISTICS TESTED AS SIGNIFICANT USING BIVARIATE ANALYSIS	SIGNIFICANCE* USING MULTIVARIATE ANALYSIS
Student's Age	
Less than 18	Overawards only (-)
18, 19, 20	Overawards (-) and underawards(-)
Over 20**	N/A
Institution Type and Control	
Proprietary	Not significant
4-Year, Private	Overawards (+) and underawards (+)
4-Year, Public	Not significant
2-Year**	N/A
Validation Status of Student	
Pell Selected	Not significant
Institution Selected	Overawards only (-)
Not Selected**	N/A

* At at least the .05 level, significant variables with "+" notation indicate an increased probability of the corresponding error and variables with "-" notation indicate a decreased probability of error.

** These values were omitted from the regression and are captured in the intercept.

TABLE 6-42

CHARACTERISTICS SIGNIFICANTLY ASSOCIATED WITH PELL STUDENT ERROR USING BIVARIATE AND MULTIVARIATE ANALYSIS, INDEPENDENT STUDENTS, 1985-86

CHARACTERISTICS TESTED AS SIGNIFICANT USING BIVARIATE ANALYSIS	SIGNIFICANCE* USING MULTIVARIATE ANALYSIS
Student's Tax Filing Status	
Did Not File	Underawards (-) only
Joint Return	Overawards (+) and underawards (-)
Single or Separate Return**	N/A
Student's Marital Status	Due to problems with collinearity with Tax Filing Status, this variable was not included in the regression.
Effective Family Income	Underawards only (+)
Institution Type and Control	
Proprietary	Overawards only (+)
Four Year, Private	Underawards only (+)
Four Year, Public	Not significant
Two Year**	N/A
Validation Status of Student	
Pell Selected	Underawards only (-)
Institution Selected	Not significant
Not Selected**	N/A

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* At at least the .05 level, significant variables with "+" notation indicate an increased probability of the corresponding error and variables with "-" notation indicate a decreased probability of error.

** These values were omitted from the regression and were captured in the intercept.

TABLE 6-43

CHARACTERISTICS SIGNIFICANTLY ASSOCIATED WITH CAMPUS-BASED STUDENT NEED ERROR USING BIVARIATE AND MULTIVARIATE ANALYSIS, DEPENDENT STUDENTS, 1985-86

CHARACTERISTICS TESTED AS SIGNIFICANT USING BIVARIATE ANALYSIS	SIGNIFICANCE* USING MULTIVARIATE ANALYSIS
Parents' Tax Filing Status	
Did Not File	Not significant
Joint Return	Not significant
Single or Separate Return**	N/A
Parents' Marital Status	Due to problems with collinearity with Tax Filing Status, this variable was not included in the regression.
Effective Family Income	Overawards (+) and underawards (+)
Household Size	
Two	Not significant
Three	Not significant
Four or Five**	N/A
Six or More	Overawards (-) and underawards (-)
Number in College	
One**	N/A
Two	Not significant
Three or More	Not significant

* At at least the .05 level, significant variables with "+" notation indicate an increased probability of the corresponding error and variables with "-" notation indicate a decreased probability of error.

** These values were omitted from the regression and are captured in the intercept.

TABLE 6-43 (Continued)

CHARACTERISTICS SIGNIFICANTLY ASSOCIATED WITH CAMPUS-BASED STUDENT NEED ERROR USING BIVARIATE AND MULTIVARIATE ANALYSIS, DEPENDENT STUDENTS, 1985-86

CHARACTERISTICS TESTED AS SIGNIFICANT USING BIVARIATE ANALYSIS	SIGNIFICANCE* USING MULTIVARIATE ANALYSIS
Institution Type and Control	
Proprietary	Not significant
4-Year, Private	Underawards only (+)
4-Year, Public	Not significant
2-Year**	N/A
Validation Status of Student***	
Pell Selected	Not significant
Institution Selected	Not significant
Not Selected**	N/A

---

* At at least the .05 level, significant variables with "+" notation indicate an increased probability of the corresponding error and variables with "-" notation indicate a decreased probability of error.

** These values were omitted from the regression and are captured in the intercept.

*** Not significant using bivariate analysis, but included as a controlling variable.

TABLE 6-44

CHARACTERISTICS SIGNIFICANTLY ASSOCIATED WITH CAMPUS-BASED STUDENT NEED ERROR USING BIVARIATE AND MULTIVARIATE ANALYSIS, INDEPENDENT STUDENTS, 1985-86

CHARACTERISTICS TESTED AS SIGNIFICANT USING BIVARIATE ANALYSIS	SIGNIFICANCE* USING MULTIVARIATE ANALYSIS
Student's Tax Filing Status	
Did Not File	Overawards only (-)
Joint Return	Not significant
Single or Separate Return**	N/A
Student's Marital Status	Due to problems with collinearity with Tax Filing Status, this variable was not included in the regression.
Effective Family Income	Underawards only (+)
Household Size	
One	Underawards only (-)
Two	Not significant
Three or More**	N/A
Institution Type and Control	
Proprietary	Overawards only (-)
4-Year, Private	Underawards only (-)
4-Year, Public	Not significant
2-Year**	N/A
Validation Status of Student***	
Pell Selected	Not significant
Institution Selected	Not significant
Not Selected**	N/A

* At at least the .05 level, significant variables with "+" notation indicate an increased probability of the corresponding error and variables with "-" notation indicate a decreased probability of error.

** These values were omitted from the regression and were captured in the intercept.

*** Not significant using bivariate analysis, but included as a controlling variable.

Multivariate Analyses of Institutional Error

In order to more effectively analyze institutional error, and the characteristics associated with institutional error, regression techniques were performed. While these analyses are described in detail in a separate volume of this study, Corrective Actions, data from these analyses are summarized in Exhibit 6-1. Exhibit 6-1 shows those characteristics that were associated with increased institutional error rates for Pell overawards, Pell underawards, Campus-Based overstatements of need, and Campus-Based understatements of need.

These data show that institutional QC procedures were very important in controlling institutional errors. Sampling-based QC procedures were especially effective. As indicated in Exhibit 6-1, a higher level of automation and higher numbers of clerical or data entry staff FTE's were associated with an increased probability of Pell underawards and a higher number of professional staff FTE's was associated with the increased probability of Campus-Based understatements of need. These could have been significant due to the fact that aid offices that are highly automated or have more staff FTE's could have conservatively designed policies to ensure against liability. Because one-on-one oversight is not fully feasible in these offices, recipients at these institutions could be more likely to receive an underaward.

	Characteristics Associated* with Decreased Error Rates	**Characteristics Associated* with Increased Error Rates**
Pell Overawards	• Four year institutions (public or private control) • Proprietary institutions • Using either sampling QC procedures alone, or in conjunction with other auxiliary procedures	• None found
Pell Underawards	• Four year institutions (public or private control) • Proprietary Institutions • Semester-based institutions • Large number of Pell recipients	• Higher level of automation • Higher number of clerical or data entry staff FTE's (more than 4)
Campus-Based Overstatements of Need	• All but little or no QC procedures	• None found
Campus-Based Understatements of Need	• Four year private institutions • Semester-based institutions • Large number of Campus-Based recipients • Sampling-based QC procedures	• Higher number of professional staff FTE's (more than 5)

** Associated at least at the .05 level.*

EXHIBIT 6-1. PROFILE OF INSTITUTIONAL CHARACTERISTICS SIGNIFICANTLY ASSOCIATED WITH ERROR IN THE PELL AND CAMPUS-BASED PROGRAMS BASED ON MULTIVARIATE ANALYSES, 1985-86

7.0

VALIDATION[1] OF STUDENT APPLICATION ITEMS AND QUALITY CONTROL OF INSTITUTIONAL PROCEDURES

This chapter presents the analysis and conclusions concerning the extent and effectiveness of two primary dimensions of quality control in the Title IV programs: validation of student application data and institutions' quality control procedures used to control institutional error in the student aid programs. Analysis of validation focuses on the extent of activities and the effectiveness of validation in removing error among Title IV recipients selected for validation by the Pell Processor, those selected by institutions, and compares these recipients with those not selected for validation for each Title IV program. These analyses indicate the following:

Validation in the Pell Grant Program

- Validation activities occurred for almost 80 percent of all Pell Grant recipients. The Pell processor selected about 53 percent of dependent recipients and 37 percent of independent recipients. Institutions selected about 66 percent of the remaining independent recipients and 59 percent of the remaining dependent recipients.
- Students selected for validation by the Pell Processor had the highest rates of error on their initial applications for the six data items mandated for validation. There was no significant differences in these item error rates between institution selected recipients and recipients who were not selected.

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[1] Throughout this chapter we use the term "validation" to refer to activities in the Pell program that are associated with confirming the value of student-supplied data. In addition, we also use the term to refer to optional activities of institutions to verify the data outside the scope of the Pell Grant program. We use the term validation to avoid confusion since the activities included in this chapter occurred in the 1985-86 academic year, prior to recent regulations that formulated an integrated system.

- After validation the remaining error in these six items was not much different for Pell selected, institution selected, and non-validated students. This suggests there exists a minimum level of error for these items which is not likely to be corrected through validation.

- Potential payment error per recipient after the students first valid SAR transaction was higher for recipients never selected for validation ($248) than it was for students selected by either the Pell Processor ($227) or institutions ($172). Thus, even though the Pell Processor does relatively well selecting recipients prone to make errors on the six mandated validation items, neither the Pell Processor nor institutions do well in selecting students prone to payment error, especially overawards.

- Despite not targeting well, institutions do a good job of removing potential error through validation for those students with discrepancies. Recipients with potential payment error after their first transaction had reductions in potential error of $164 per recipient or $85 million for Pell Processor selected for validation and $125 per recipient or $43 million for institution selected for validation. By comparison, self correction of potential error amounted to $92 per recipient with initial potential error or $23 million total for students who were not selected.

- After validation, error still remains high. Pell selected recipients had $161 error per student, institution selected recipients had $127 error per student, and non-selected students had $207 error per student by the time final awards were made. Thus, while effective in removing some level of error, corrective actions in addition to validation are needed if there is going to be substantial progress made in reducing error in the Pell Grant program.

Validation in the Campus-Based Programs

- Validation activities in the Campus-Based programs were about as extensive as in the Pell program (73 percent) and increased between 1983-84 and 1985-86 in terms of both recipients selected by the Pell processor and those selected by institutions. Institutions used the Pell Processor flag to select recipients for validation and validated these recipients at a higher rate than non-flagged Campus-Based recipients.

- Recipients receiving aid from multiple programs (e.g., Pell and Campus-Based) were more likely to be selected for validation by institutions than were recipients of only Campus-Based awards.

- **Campus-Based recipients selected by the Pell Processor for validation have the lowest rates of student need error (55.2 percent). This compares with rates of 71.5 percent and 64.7 percent for institution selected and not selected respectively.**

- **All validated cases have lower item discrepancy for adjusted gross income, although institution selected validation is not successful at reducing item discrepancy in general.**

Validation in the GSL Program

- **Institutions selected Campus-Based and GSL recipients for validation at a higher rate (67.9 percent) than recipients receiving only a GSL (45.5 percent).**

- **Institution selected GSL recipients had an estimated 34.5 percent overcertification error rate as compared to 28.7 percent and 27.7 percent error rates for Pell selected and not selected respectively.**

Institutional Quality Control

Analysis of institutional quality control procedures and their effectiveness in controlling institutional error across the Title IV programs indicated the following:

- Pell and Campus-Based recipients attending institutions that used particular types of extensive quality control procedures (e.g., sampling), had a significantly lower institutional error rate.

- Recipients attending institutions with low or no quality control procedures had the highest institutional error rates.

These findings are discussed in detail in the following sections.

7.1 VALIDATION IN THE PELL, CAMPUS-BASED, AND GSL PROGRAMS

The following sections analyze validation in the Pell, Campus-Based, and GSL programs. In each of the following sections we discuss the extent of validation, documentation used for validation, and effectiveness of validation in the respective programs.

7.1.1 Validation in the Pell Grant Program

An integral part of the Pell processing system is the attempt to ensure, to the greatest extent possible, that all applicants receive the benefits to which they are entitled. The accuracy of applicant data is partially controlled through the validation process. The processing system, through the edit and validation subsystem, is responsible for identifying those cases requiring validation. Once identified, the institution is responsible for actually reviewing the accuracy of the application.

The nature of the validation process is defined by the trade-off between accuracy and institutional burden. As the percentage of applications flagged for validation increases, both accuracy and institutional burden will also increase. The current system attempts to increase accuracy while minimizing institutional burden by selecting for validation those applications where the data submitted are thought likely to contain error. Applications thought to be less error-prone are permitted to pass through the system without being selected for validation.

Background on Validation

Validation of selected Pell applications became a requirement of the Department of Education in 1979. Since then, several changes in the validation process have occurred. These include changes in the percent of applications selected for validation, the methodology used for selecting applications to be validated, and the procedures for conducting validation.

In 1985-86, 37 percent of applicants were selected by the Central Processor to be validated. With the exception of a small number of applicants who were randomly selected, applicants selected to be validated were those thought likely to have erred in completing their applications. For applicants selected to be validated, institutions were required to verify the following data items:

- Independent student status
- Household size
- Number in postsecondary education
- Adjusted gross income
- U.S. income tax paid
- Untaxed income and benefits
    - Married couple deduction
    - Social Security Benefits (if a comment appeared on the student's Eligibility Letter)
    - Other untaxed income and
    - VA Educational Benefits.

The major change in the validation process in 1985-86 from the prior two years was the requirement to verify number enrolled in postsecondary education, other untaxed income, VA educational benefits, and independent student status. Verification for number enrolled in postsecondary education consisted of obtaining a signed statement with information (i.e., age, name, and address of institution attending) on all household members who were or would be attending postsecondary education institutions as at least half-time students. Similarly, verification for other untaxed income consisted of obtaining the signed worksheet or similar statement listing untaxed income and benefits received. For both items, source documents were required if there were reasons to doubt the data supplied by the student. Verifying the determinants of dependency status, either through tax returns or signed statements from parents and students, was required for independent students under the age of 23 on January 1 of the award year or for whom there was conflicting documentation.

With this background in mind, the remainder of this section is aimed at answering the following questions:

- **The extent of validation** - How many and what types of students are validated?
- **The effectiveness of validation** - How well does validation target those with error? How well does validation remove error? How much error remains after validation?

Extent of Validation

Validation in the Pell Grant program is not limited to cases selected by the Pell Central Processor. Institutions may independently decide to validate a potential recipient. Thus, Pell recipients fall into three categories regarding validation:

- Pell Processor Selected - Those recipients who were selected for validation by the Central Processor as described above.
- Institution Selected - Those recipients who were not selected by the Central Processor, but were optionally selected by the institution. For purposes of this project optional selection was defined as the presence in these students' files of documentation relating to their sources of income, either taxable or non-taxable.
- Not Selected - Those recipients who were not selected by the Central Processor and who were not optionally validated by the institution.

Table 7-1 presents data on the estimated percentage of Pell recipients falling into each of the three validation categories. The table shows that almost 80 percent of the recipients were verified with slightly less than one-half of Pell recipients being selected for validation by the Central Processor. This figure will differ from one produced by the Processing System because our figure relates only to recipients as opposed to applicants, not all of whom become recipients. Since Pell validation was targeted on applicants thought to have erred in providing application data, students with differing characteristics were likely to have different rates of selection, especially when these characteristics are the basis for validation selection.

Applicants are selected for validation without regard for the institution they will be or are attending. Among types of institutions, recipients attending 4-year public institutions were the most likely to be selected, followed fairly closely by recipients attending 2-year private, 4-year private, and 2-year public institutions. Recipients

TABLE 7-1
THE EXTENT OF VALIDATION IN THE PELL GRANT PROGRAM BY DEPENDENCY STATUS AND TYPE AND CONTROL OF INSTITUTION, 1985-86

	PELL PROCESSOR SELECTED	INSTITUTION SELECTED		NOT SELECTED	
	% of All Cases	% of All Cases	% of Cases Not Pell Selected	% of All Cases	% of Cases Not Pell Selected
Total	45.9	33.7	62.4	20.3	37.6
Student Status					
Independent	37.1	41.3	65.7	21.6	34.3
Dependent	53.3	27.5	58.9	19.2	41.1
Type and Control					
2-Year Public	42.7	39.5	68.9	17.8	31.1
4-Year Public	53.4	24.6	52.8	22.0	47.2
2-Year Private	49.5	32.7	64.8	17.8	35.2
4-Year Private	43.3	39.4	69.4	17.4	30.6
Proprietary	26.8	45.3	61.9	27.9	38.1

For example: The Pell Processor selected an estimated 37.1 percent of all independent Pell recipients for validation. Of those not selected, our study uncovered evidence that institutions selected 65.7 per cent for their own validation. These represent 41.3 percent of all independent recipients. In total an estimated 78.4 percent of all independent Pell recipients (41.3 plus 37.1) were validated in 1985-86. For dependent students this figure is 80.8 percent.

attending proprietary institutions were much less likely to be selected for validation.

While institution selected cases comprised 33 percent of all cases, institutions voluntarily chose to validate 62 percent of the pool of available cases (i.e., those not Pell selected). Unlike the Pell validation system, institutions were somewhat more likely to choose to validate independent recipients rather than dependent recipients. Four year private and 2-year public institutions most frequently conducted optional validation, 2-year private and proprietary institutions conducted optional validation in 5 percent fewer cases, and 4-year public institutions were between 10 and 15 percent less likely to have validated those recipients not selected for validation by the Central Processor.

Non-validated cases comprised one-fifth of all cases. The percent of cases not validated was consistent by dependency status and among recipients attending 2-year public, 2-year private, and 4-year private institutions. However, recipients attending 4-year public and proprietary institutions were somewhat less likely to be validated. Proprietary institutions had a higher percent of non-validated cases because of the lower rate at which their recipients were selected for validation by the Central Processor. For 4-year public institutions, the higher percent of non-selected cases was caused by a low rate of optional institution validation.

The rate at which Pell recipients are validated is only one measure of the extent of validation. Analyzing activities at the data item level provides another opportunity to describe the extent of validation. For example, types of documentation can be described for Pell and institution selected recipients. A comparison of Pell selected and institution selected cases revealed little difference in the type of documentation collected as verification of income related items. Compliance with ED requirements is a second dimension of the analysis of validation activities at the item level. Although measurement of compliance with Pell validation requirements was not an explicit focus of the study, data can indicate the overall compliance for Pell-selected cases. Since we can determine with the highest degree of certainty the presence and accuracy of documentation of income related items, these data can serve as a useful proxy for compliance with Pell validation requirements. Our analysis indicates that in cases selected by the Pell Processor, institutions obtained source documentation of income (e.g., tax forms) over 95 percent of the time. This suggests a high level of compliance with validation requirements.

Effectiveness of Validation

Our purpose in this section is to present evidence concerning the effectiveness of Pell validation in removing error from the program., In this context, effectiveness has three critical dimensions:

- The ability to target validation on those applications containing errors
- The ability of the validation process to eliminate errors on those applications selected for validation
- The ability of the validation process to reduce the amount of error remaining in validated cases.

The Pell validation subsystem attempts to maximize the impact on accuracy of a given expenditure of institutional resources. By targeting validation on applicants thought to have erred in completing their applications, we can analyze the effectiveness of Pell validation in selecting error-prone applications by studying initial error rates. That is, we can study the difference between all of the data reported on the first Computed Applicant Record (CAR -- the Pell processor applicant file) transaction and best data. The other primary purpose of validation is the removal of error from those cases validated. Error removed can be measured as the difference between error at the beginning of the award process, based on the first CAR transaction, and error at the end of the process, based on the CAR payment transaction. The third goal of validation is to reduce the amount of error remaining in validated cases. The effectiveness of validation at accomplishing this goal can be assessed by looking at error at the end of the award process.

Targeting Cases

A starting point for this analysis is examining item discrepancy rates for recipients. In Table 7-2, item discrepancy rates are presented for those data items that have to be verified according to the Pell validation requirements. Discrepancy rates are presented for both the beginning of the award process (best data compared to data from the first CAR transaction), and the end of the award process (best data compared to data from the CAR payment transaction).

If the validation system were successful in targeting resources, then cases selected for validation should have higher error rates in the six validated items at the beginning of the award process than those cases not selected for validation. The table reveals that the Pell validation selection criteria were effective at identifying recipients who misreported the six data items required to be verified. For all six data

TABLE 7-2
PERCENT OF CASES WITH SELECTED PELL ITEM DISCREPANCIES* ON THE FIRST AND PAYMENT TRANSACTIONS BY VALIDATION STATUS AND REPORTED DEPENDENCY STATUS, 1985-86

	PELL SELECTED		INSTITUTION SELECTED		NOT SELECTED	
	First Trans.	Payment Trans.	First Trans.	Payment Trans.	First Trans.	Payment Trans.
Net Income**	39.0	25.2	22.2	18.7	25.1	21.2
Independent	35.3	23.8	18.0	15.1	21.3	14.7
Dependent	41.2	26.1	27.5	23.4	28.7	27.3
Non-Taxable Income**	41.1	22.0	36.8	28.9	35.1	18.9
Independent	27.1	21.3	34.5	33.6	24.1	19.9
Dependent	49.3	22.5	39.7	23.0	45.6	18.0
Dependent Net Income**	43.5	39.6	37.8	37.8	34.8	34.6
Household Size**	28.5	25.5	20.3	18.5	21.6	21.3
Independent	14.8	11.7	16.0	14.9	12.6	12.9
Dependent	36.2	33.3	25.5	22.9	29.4	28.7
Number in College**	15.2	12.8	12.8	12.1	10.5	10.9
Independent	7.7	5.7	9.7	9.0	6.2	6.2
Dependent	19.3	16.7	16.4	15.8	14.4	15.1
Dependency Status	4.5	3.2	3.6	3.6	3.7	4.3
Independent	7.1	6.0	5.2	5.5	7.2	8.5
Dependent	2.9	1.5	1.4	1.3	0.4	0.4

* Using a ± $50 tolerance
** Excludes cases switching dependency status

For example: An estimated 41.1 percent of those recipients that the Pell processor selected for validation had erroneous non-taxable income data on their first valid transaction. This discrepancy rate dropped to 22 percent by the time they received the SAR transaction that was used to determine their Pell Award.

elements, Pell selected cases had higher rates of misreporting based on the first transaction than either institution selected or non-selected cases. This was especially true of net income (AGI minus U.S. taxes) where the misreporting rate was approximately 15 percentage points higher for Pell selected cases than cases not selected. Even for those data items newly required to be verified in 1985-86, there were higher initial discrepancy rates for Pell selected cases.

A more important measure of the effectiveness of validation is the ability of validation to reduce payment error in the cases selected. The focus on payment error is important because not all item discrepancies result in payment error. For example, low income recipients who qualify for a maximum award may have a high rate of item discrepancy, but using verified data does not produce award changes since they may still qualify for a maximum award. Thus, the validation process must first identify the most error-prone cases (i.e., those whose awards will change), eliminate payment error prior to award, and have the lowest residual error rate to be judged maximally effective.

In Table 7-3 we analyze the effectiveness of Pell selected validation in selecting error-prone applications by comparing initial error rates (i.e., the difference between the award calculated using data reported on the first transaction, best enrollment status, and best cost of attendance and the best award) among Pell selected, institution selected, and not selected cases. Unlike the finding that Pell selection targeted well on cases with discrepancies in the six data items, the table reveals that neither Pell nor institution selection was particularly successful at identifying error-prone recipients (recipients with payment error).

TABLE 7-3
TARGETING ERROR-PRONE CASES:
PELL STUDENT ERROR
COMPARING THE FIRST TRANSACTION TO THE BEST AWARD BY VALIDATION STATUS AND REPORTED DEPENDENCY STATUS, 1985-86

	NO ERROR (Within $50)	UNDERAWARDS			OVERAWARDS		
	Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
Not Selected	55.3	14.6	461	38.3	30.1	602	102.6
Independent	69.7	13.9	627	24.1	16.4	954	43.2
Dependent	41.5	15.3	318	14.2	43.2	474	59.4
Pell Selected	59.4	11.5	510	74.8	29.2	576	215.1
Independent	79.9	7.9	671	25.2	12.2	745	43.2
Dependent	47.3	13.6	455	49.7	39.1	545	171.9
Institution Selected	63.5	10.6	460	46.0	25.9	478	116.3
Independent	72.9	8.3	512	22.4	18.8	536	53.0
Dependent	51.6	13.6	420	23.6	34.9	438	63.3

Of the three categories of recipients, not selected recipients began the award process with the highest percent of cases in error. Pell selected recipients were the next most frequently found to be in error with institution selected recipients being the least likely to contain errors. Pell selected validation was somewhat more effective at identifying overawards and dependents with higher amounts of error.

Another cut at these data is shown in Table 7-4. Here we see that for all not selected Pell recipients, the average potential payment error was $248. This is higher than the corresponding potential payment errors for Pell selected ($227) and institution selected ($172) recipients. This indicates that neither selection process is doing well at identifying cases that are prone to have payment error, especially overawards.

Removing Payment Error Through Validation

Perhaps the most important aspect of validation is the extent to which it removes errors in awards from the program. Table 7-5 presents data on the change in award error throughout the award process. From the table it can be seen that error rates generally decline throughout the award process whether a case is validated or not. That is, self-corrections tend to reduce error. Pell selected cases had the most significant improvement in accuracy. Underawards decreased $48.1 million and overawards decreased $36.8 million reflecting an improvement in accuracy among Pell selected recipients of almost $85 million. An

TABLE 7-4
POTENTIAL STUDENT ERROR AT FIRST TRANSACTION BY VALIDATION STATUS, 1985-86

	NOT SELECTED	PELL SELECTED	INSTITUTION SELECTED
Absolute Error			
Total Potential Error ($ Millions)	140.9	289.9	162.3
Number with Potential Error	253,000	520,000	345,000
Mean Error(Those with Potential Error)	$554	$559	472
Mean Error (All in Validation Status)	$248	$227	$172
Underawards			
Total Potential Error ($ Millions)	38.3	74.8	46.0
Number with Potential Error	83,000	147,000	100,000
Mean Potential Error	$461	$510	$460
Overawards			
Total Potential Error ($ Millions)	102.6	215.1	116.3
Number with Potential Error	170,000	373,000	245,000
Mean Potential Error	$602	$576	$478

TABLE 7-5
REMOVING PAYMENT ERROR THROUGH VALIDATION: CHANGE IN PELL STUDENT ERROR BETWEEN THE FIRST AND PAYMENT TRANSACTIONS BY VALIDATION STATUS AND REPORTED DEPENDENCY STATUS, 1985-86

	PAYMENT ERROR REMOVED (Within $50)	UNDERAWARDS		OVERAWARDS	
	Percent	Percent	Total ($ Millions)	Percent	Total ($ Millions)
Not Selected	3.1	-1.4	-9.9	-1.7	-13.5
Independent	5.5	-3.4	-10.8	-2.1	-8.6
Dependent	0.8	0.5	0.9	-1.3	-4.9
Pell Selected	6.7	-4.1	-48.1	-2.6	-36.8
Independent	6.4	-4.3	-21.6	-2.1	-11.2
Dependent	6.8	-4.0	-26.6	-2.8	-25.6
Institution Selected	5.3	-1.5	-17.9	-3.7	-25.0
Independent	5.9	-0.7	-9.1	-5.2	-20.0
Dependent	4.5	-2.7	-8.8	-1.9	-5.1

Negative values indicate that the value of the statistic decreased between the first and payment transaction
Positive values indicate that the value of the statistic increased between the first and payment transaction
Error calculations include all data elements, not just the six verification items.

For example: The percentage of Pell Selected recipients with no error increased by 6.7 percentage points between the first and payment transactions. This 6.7 percentage points is made up of a 4.1 percentage point decrease in recipients with underawards and a 2.6 percentage point decrease in recipients with overawards.

interesting sidelight is that in terms of net program error there was actually an estimated $10 million increase because underawards declined more than overawards.

Table 7-6 is a different look at these data. We can see that despite not being good at selecting payment error-prone cases, validation is effective at reducing error. This reduction is based on the number of cases with error removed and the average amount of error removed. For those with potential payment error after their first transaction, Pell selected and institution selected validation removed $164 and $125 per case respectively. This compares favorably with the $92 per case reduction in error apparently caused by self-correction. The poor ability to select error-prone cases is again shown by the relatively closer numbers for mean error removed for all in the category (including those who initially had no potential payment error) for each type of recipient.

Payment Error Remaining After Validation

Remaining or residual error is the difference between the award based on best cost of attendance, best enrollment status, and the data reported on the payment transaction and best award (i.e., student error as defined

TABLE 7-6
STUDENT ERROR REMOVED BETWEEN FIRST AND PAYMENT TRANSACTIONS BY VALIDATION STATUS, 1985-86

	NOT SELECTED	PELL SELECTED	INSTITUTION SELECTED
Absolute Error			
Total Error Removed (Millions)	$23.4	$84.9	$42.9
Cases Initially in Error	253,000	520,.00	345,000
Mean Error Removed (Those Initially in Error)	$92	$164	$125
Mean Error Removed (All in Validation Status)	$41	$66	$45
Underawards			
Total Error Removed (Millions)	$9.9	$48.1	$17.9
Cases Initally in Error	83,000	147,000	100,000
Mean Error Removed	$119	$328	$179
Overawards			
Total Error Removed (Millions)	$13.5	$36.8	$25.0
Cases Initially in Error	170,000	373,000	245,000
Mean Erorr Removed	$79	$99	$102

in Chapter 2) and is presented in Table 7-7 by validation status and reported dependency status. Not selected cases had the highest residual error rates followed by Pell selected and then institution selected cases.

Table 7-8 summarizes these data in a slightly different fashion. Here we see that after all the correction processes are complete and we compare the remaining error, institution selected cases have the least error per recipient, followed by Pell selected and then not selected recipients.

However, substantial error still remains after validation. Apparently there is a lower bound on the error rates and magnitudes which is not particularly vulnerable to validation. Table 7-9 recalls selected data from Table 7-3 to illustrate this point. For each of the six mandated validation items there is very little difference in the discrepancy rates at the payment transaction regardless of validation status (even though Pell selected cases began with higher discrepancy rates). This suggests that validation only goes so far in removing error and fails to reduce discrepancy rates below some floor. This further suggests that other types of corrective actions will be required to reduce error to more acceptable levels.

TABLE 7-7
RESIDUAL ERROR:
PELL STUDENT ERROR
BY VALIDATION STATUS AND REPORTED DEPENDENCY STATUS, 1985-86

	NO ERROR (Within $50)	UNDERAWARDS			OVERAWARDS		
	Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)
Not Selected*	58.4	13.2	380	28.4	28.4	553	89.1
Independent	75.2	10.5	458	13.3	14.3	876	34.6
Dependent	42.3	15.8	330	15.1	41.9	448	54.5
Pell Selected*	66.1	7.4	282	26.7	26.6	525	178.3
Independent	86.3	3.6	208	3.6	10.1	668	32.0
Dependent	54.1	9.6	299	23.1	36.3	501	146.3
Institution Selected*	68.8	9.1	328	28.1	22.2	438	91.3
Independent	78.8	7.6	331	13.3	13.6	461	33.0
Dependent	56.1	10.9	326	14.8	33.0	426	58.2

* In order to test for a significant relationship between error and validation status, we ran a chi-square test for both independent and dependent Pell recipients. In both cases, validation status was significantly related to student error at the .0022 level.

TABLE 7-8
STUDENT ERROR REMAINING AT PAYMENT TRANSACTION BY VALIDATION STATUS, 1985-86

	NOT SELECTED	PELL SELECTED	INSTITUTION SELECTED
Absolute Error			
Total Remaining Error (Millions)	$117.5	$205.0	$119.4
Cases with Remaining Error	235,000	435,000	295,000
Mean Error (Those with Remaining Error)	$496	$473	$405
Mean (All in Validation Status)	$207	$161	$127
Underawards			
Total Remaining Error (Millions)	$28.4	$26.7	$28.1
Cases with Remaining Error	75,000	95,000	86,000
Mean Remaining Error	$380	$282	$328
Overawards			
Total Remaining Error (Millions)	$89.1	$178.3	$91.3
Cases with Remaining Error	160,000	340,000	209,000
Mean Remaining Error	$553	$525	$438

TABLE 7-9
PERCENT OF CASES WITH SELECTED PELL ITEM DISCREPANCIES ON THE PAYMENT TRANSACTION BY VALIDATION STATUS, 1985-86

	PELL SELECTED	INSTITUTIONAL SELECTED	NOT SELECTED
Net Income	25.2	18.7	21.2
Non-Taxable Income	22.0	28.9	18.9
Dependent Net Income	39.6	37.8	34.6
Household Size	25.5	18.5	21.3
Number in College	12.8	12.1	10.9
Dependency Status	3.2	3.6	4.3

Conclusion

The foregoing analyses indicate that validation activities for recipients selected by the Pell Processor and by institutions are extensive. A comparison of the relative effectiveness of Pell validation indicates that Pell selection is more effective than institution selection in choosing the cases with the highest frequency of item discrepancies for the mandated items and for removing item discrepancy. There is no appreciable difference among Pell selected, institution selected, or non-selected cases concerning item discrepancy remaining after validation.

Analysis of award changes presents slightly more complex results. The analysis is graphically summarized in Exhibit 7-1. Pell selection is more effective at targeting error prone recipients than institution selection, but not-selected recipients are the most error prone. Pell selected validation removes the most payment error, but institution selected has the least error remaining after validation.

These analysis indicate that validation is an effective means of removing some of the student error in the Pell Grant program. However, additional measures will be required if the large amount of remaining error, even in those items targeted for validation, is to be drastically reduced.

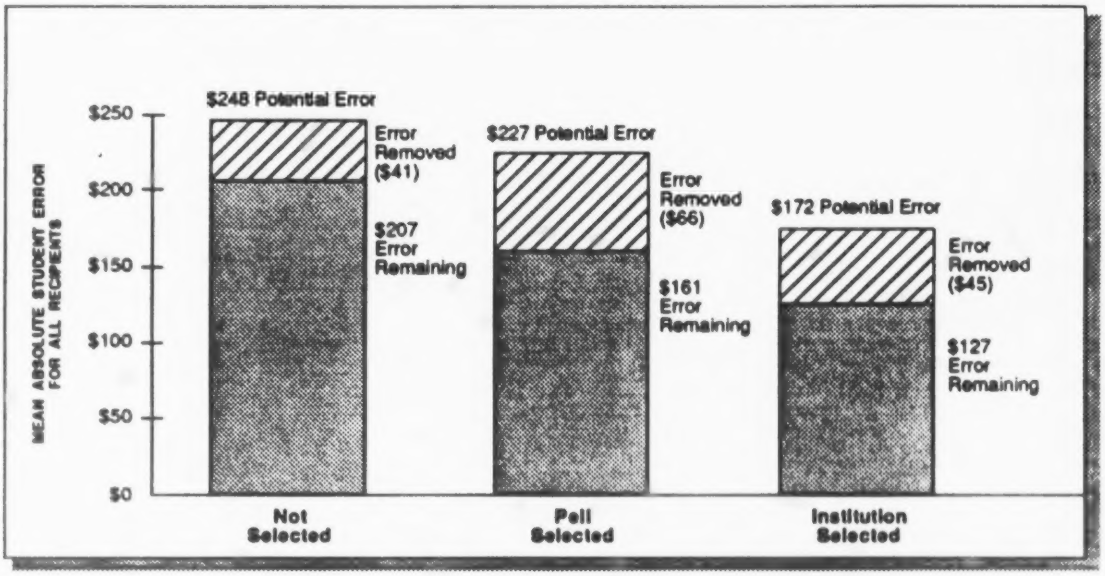

EXHIBIT 7-1. SUMMARY OF THE EFFECTIVENESS OF VALIDATION IN REMOVING STUDENT ERROR, 1985-86

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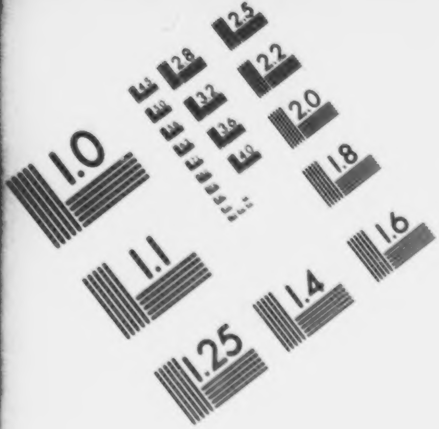
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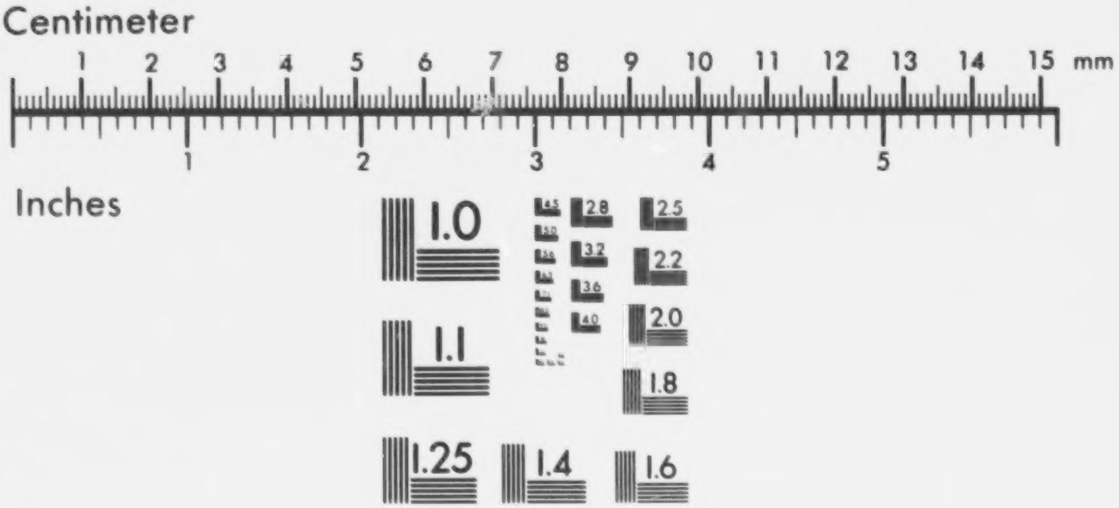
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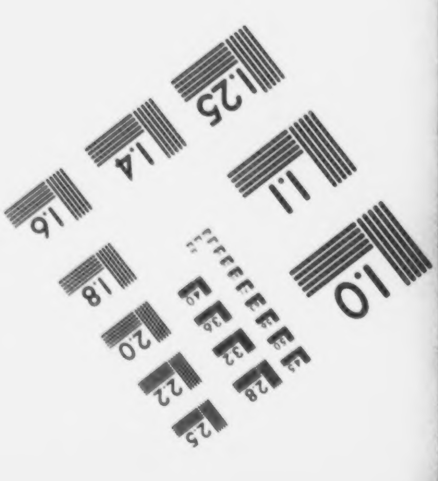
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7.1.2 Institutional Validation in the Campus-Based Programs

Unlike Pell validation discussed in the previous section, in 1985-86 there was no requirement that institutions verify students in the Campus-Based programs. As a preliminary step toward implementation of an integrated verification system, certain non-Pell eligible students had asterisks placed next to the FC by the Central Processor. Validation for these students was optional in 1985-86. Except for cases where messages appeared, institutions were only required to validate the conflicting data item.

The purpose of this section is to provide evidence of the extent, nature, and effectiveness of validation in the Campus-Based programs and to compare this activity to Stage One. Specifically we address questions concerning:

- How often institutions chose to validate Campus-Based recipients
- How the rate of validation differed by student and institution characteristics
- The documentation used in conducting validation
- The effect of validation on remaining item discrepancy and error rates.

Extent of Validation

Table 7-10 shows that 73 percent of Campus-Based recipients were validated, and how this varied by dependency status. Roughly one-third (32.2 percent) of all Campus-Based recipients were selected by the Pell

TABLE 7-10
PERCENTAGE OF CAMPUS-BASED RECIPIENTS SELECTED FOR VALIDATION BY DEPENDENCY STATUS, 1985-86 AND 1983-84

Reported Dependency Status	Pell Selected 1985-86	Pell Selected 1983-84	Institution Selected 1985-86	Institution Selected 1983-84	Not Selected 1985-86	Not Selected 1983-84
Independent Students	32.5	21.5	39.2	45.0	28.3	33.5
Dependent Students	32.0	19.0	42.3	42.5	25.7	38.5
Total	32.2	19.7	41.2	43.3	26.6	37.1

Processor for validation and slightly more recipients (41.2 percent) were selected by the institution for Campus-Based validation. A total of about one-fourth of Campus-Based recipients (26.6 percent) were not selected by the institution for Campus-Based validation, nor were they selected by the Pell Processor for Pell validation. For the 1983-84 academic year, 37.1 percent of Campus-Based recipients were selected by neither institutions nor the Pell Processor indicating an increase in the incidence of validation of Campus-Based recipients.

While the percentage of Campus-Based recipients selected by the institution for validation decreased slightly from the 1983-84 academic year, a much higher percentage of Campus-Based recipients were selected by the Pell Processor in the current study. Thus, in the 1983-84 academic year, institutions selected 53.9 percent of Campus-Based recipients that were not Pell selected and in the 1985-86 academic year, they selected 60.8 percent of the Campus-Based recipients that were not Pell selected. These figures would indicate an increase in the extent of institution selected validation. Furthermore, while not shown in the table, institutions were more likely to select a Campus-Based recipient if the recipient was flagged by the Pell Processor. Recipients who were flagged were selected by the institution 75.3 percent of the time, while institutions selected 64.1 percent of the Campus-Based recipients not flagged by the Pell Processor.

Table 7-11 shows the differences in the extent of Campus-Based validation by institution type and control and by type of aid received. This table shows that Campus-Based recipients at 2-year institutions (both public and private) and at 4-year public institutions were more likely to be Pell selected than Campus-Based recipients at 4-year private or proprietary schools. In addition, Campus-Based recipients at 4-year private, proprietary, and 2-year public schools were more likely to be selected by the institution. Thus, Campus-Based recipients at 2-year public schools were most likely to be either Pell or institution selected, while Campus-Based recipients at 2-year private schools were least likely to be Pell or institution selected. Of the Campus-Based recipients not Pell selected, 2-year public schools and 4-year private schools selected the highest percentages, while 2-year private schools selected the lowest percentage.

Data indicate that recipients participating in multiple programs are most likely to be selected for validation by the Pell Processor. Campus-Based recipients who had a GSL were more likely to be Pell selected than Campus-Based recipients having only a Pell award without a GSL. In addition, recipients with awards in all three programs and recipients with Pell and Campus-Based awards were more likely to be Pell selected than Pell recipients in general.

For the most part, institution selected validation concentrated on Campus-Based recipients not in the Pell program. However, Campus-Based recipients with no other type of aid were most likely not to be selected

TABLE 7-11
THE EXTENT OF VALIDATION IN THE CAMPUS-BASED PROGRAMS BY INSTITUTION TYPE AND CONTROL AND TYPE OF AID RECEIVED,
1985-86

	Pell Selected	Institution Selected		Not Selected	
	% of All Cases	% of All Cases	% of Cases Not Pell Selected	% of All Cases	% of Cases Not Pell Selected
Type and Control					
2-Year Public	38.7	43.2	70.5	18.1	29.5
4-Year Public	37.4	33.9	54.2	28.7	45.8
2-Year Private	38.0	16.5	26.6	45.5	73.4
4-Year Private	22.9	50.8	65.9	26.3	34.1
Proprietary	24.4	44.4	57.6	31.2	40.4
Aid Received					
C-B only	0	58.7	58.7	41.3	41.3
Pell & C-B	46.5	30.6	57.2	22.9	42.8
C-B & GSL	0	67.9	67.9	32.1	32.1
Pell, C-B, & GSL	50.1	28.1	56.3	21.8	43.7

at all, while Campus-Based recipients that also received a Pell and a GSL were most likely to be either Pell or institution selected.

Validation Documentation

In addition to analysis of the extent of Campus-Based validation, we examined the type and frequency of documentation found in sampled students' files. We analyzed these data across four dimensions: individual data items most frequently validated, patterns for Pell and institutionally selected cases, patterns for dependent and independent cases, and comparison of these data with data from the 1983-84 Stage One pilot study. Tables 7-12 and 7-13 present the data on validation documentation for dependent and independent students, respectively. Taxable and nontaxable income, household size, and number in college were the data items for which documentation was found in recipient files most frequently. This pattern generally is consistent with the 1983-84 Stage One data. However, the frequency with which documentation was found in students' files increased between 1983-84 and 1985-86 for virtually every item, both for Pell selected and institutionally selected cases as well as independent and dependent students. These data suggest a general increase in validation activities across all dimensions of our analysis.

Documentation for taxable income was most frequently present in student files. Tax returns or statements of non-filing were present in nearly 100 percent of dependent cases (Table 7-12) and over 95 percent of the independent cases (Table 7-13). The greatest increases in verification documentation for both dependent and independent cases occurred for household size and number in college. This appears to be

TABLE 7-12
FILE DOCUMENTATION IN THE CAMPUS-BASED PROGRAM FOR DEPENDENT STUDENTS SELECTED FOR VALIDATION, 1985-86 and 1983-84

	Pell Processor Selected for Validation		Institution Selected for Validation	
	% of Recipients with Documentation		% of Recipients with Documentation	
Type of Documentation in File	1985-86	1983-84	1985-86	1983-84
Parents' U.S. Tax Return	90.6	79.1	91.2	91.3
Parents' State Tax Return	1.4	7.6	0.5	6.8
Parents' W-2 Forms	3.8	8.9	2.5	5.6
Parents' Statement of Non-Tax Filing	8.0	6.1	8.9	6.9
Statement From Social Security Regarding Parents' Benefits	4.8	3.5	3.4	1.1
Statement From Social Service Agency Regarding Parents' Benefits	2.8	2.3	1.2	1.6
Student's Tax Return	31.3	16.8	28.1	13.7
Student's W-2 Forms	0.6	0	0.9	0
Letter From Social Security Agency Regarding Household Size	0	1.2	0.2	0.6
Statement from Parent and/or Student Regarding Household Size	30.81	3.4	16.51	3.4
Letter from Institution Regarding Number in College	8.8	0	6.8	0.5

TABLE 7-13
FILE DOCUMENTATION IN THE CAMPUS-BASED PROGRAM FOR INDEPENDENT STUDENTS SELECTED FOR VALIDATION, 1985-86 and 1983-84

	Pell Processor Selected for Validation		Institution Selected for Validation	
Type of Documentation in File	% of Recipients with Documentation		% of Recipients with Documentation	
	1985-86	1983-84	1985-86	1983-84
Students' U.S. Tax Return	72.5	56.2	67.7	59.7
Students' State Tax Return	1.2	0	1.9	0
Students' W-2 Forms	3.1	5.8	5.8	3.7
Students' Statement of Non-Tax Filing	23.3	31.1	30.7	32.3
Statement From Social Security Regarding Student's Benefits	1.0	0	0.5	0
Statement From Social Service Agency Regarding Student's Benefits	4.3	7.5	9.2	5.0
Parents' Tax Return	19.9	4.7	9.8	4.6
Letter From Social Security Agency Regarding Household Size	1.0	2.8	0.7	0
Statement from Student Regarding Household Size	19.9	0	19.4	2.5

the result of increased emphasis on these items in Pell validation. The greatest single increase in the frequency with which documentation was collected was for dependent student tax returns which increased by over 15 percent for both Pell and institutionally selected cases.

Effectiveness of Validation

In the discussion of Pell validation, we assessed the effectiveness of Pell selected validation by analyzing the changes occurring in item discrepancy and error rates throughout the award process. Since there was no centralized applicant history file for the Campus-Based programs, we were unable to repeat this type of analysis in this section. To assess the effectiveness of validation in the Campus-Based programs, we compare the frequency and amount of student error for selected and non-selected cases. By analyzing student error we are only able to focus on the amount of error that remains after the validation process was completed, not the amount of error removed by validation. While this is an imperfect measure of the effectiveness of validation, we believe that it can provide useful insights into the ability of validation to limit student errors.

Tables 7-14 and 7-15 present remaining discrepancy rates for data items often verified during validation. Separate tables are shown for independent and dependent recipients because of the vastly different treatment they receive in the EFC formula. For independents, expected income, which is not verifiable, is used in the EFC formula so that the only items that could be affected by validation were household size and number in postsecondary education.

With the exception of adjusted gross income for dependent students, the tables do not indicate a consistent relationship between item discrepancy rates and validation. The discrepancy rate for adjusted gross income is lower for selected recipients than for non-selected recipients. While other conclusions are possible, this finding is consistent with the hypothesis that validation is successful at identifying and eliminating errors in adjusted gross income.

The lack of a similar relationship between validation and discrepancy rates for the other data items is not surprising. Adjusted gross income is the easiest item to verify with documentation. Requirements for many of the other items rely on statements from students and parents and not source documents such as a tax return.

Consequently, for items like household size and number in postsecondary education, verification is difficult and often may not uncover errors. Also, with many students packaged well below need, institutions may not correct discrepancies which they know will not reduce need below award.

TABLE 7-14
CAMPUS-BASED VALIDATION:
PERCENTAGE OF DEPENDENT STUDENTS WITH SELECTED ITEM DISCREPANCIES* REMAINING AFTER VALIDATION, BY VALIDATION STATUS, 1985-86

Item	Pell Selected	Institution Selected	Not Selected
Adjusted Gross Income	17.4	17.5	23.3
U.S. Income Tax	23.9	27.8	25.8
Other Nontaxable Income	27.0	34.0	31.5
Dependent's Income	19.2	25.0	23.1
Household Size	29.5	25.6	21.2
Number in Postsecondary Institution	16.5	13.8	14.9

* Using a ± $50 tolerance and excluding dependency status switchers.

TABLE 7-15
CAMPUS-BASED VALIDATION:
PERCENTAGE OF INDEPENDENT STUDENTS WITH SELECTED ITEM DISCREPANCIES REMAINING AFTER VALIDATION, BY VALIDATION STATUS,
1985-86

Item	Pell Selected	Institution Selected	Not Selected
Household Size*	12.6	10.4	13.2
Numbers in Postsecondary Institution*	7.4	4.9	4.2

*Excludes cases switching dependency status

Table 7-16 compares residual student need errors among the three categories of validation. The data indicate that Pell selected cases have the lowest remaining error rate, followed by non-selected cases, and then institution selected cases having the highest remaining error rate. There is little difference among the three validation groups in terms of the rate of understatements. Pell selected students had a much lower rate of overstatements than either institution selected or non-selected students, however. These results hold for both independent and dependent recipients although the impact of validation on independent students is tenuous given that the EFC formula for independents is largely based on expected data which could not be verified.

Interpreting the data presented in Table 7-16 is difficult given that we are only analyzing remaining error. The lack of a centralized applicant history file for the Campus-Based programs means that we could not measure error at the beginning of the award process or the error removed during the award process. Higher remaining error rates in one of the validation status categories as compared to the others may only indicate a more error-prone population and not the effectiveness of a given validation treatment. There is some evidence that this is in fact taking place. Campus-Based recipients who also received Pell awards had significantly lower error rates, particularly overstatements, than Campus-Based recipients not receiving Pell awards. Pell recipients because they have lower incomes would be expected to have lower rates of overstatements given the positive relationship between income and error demonstrated in Chapter 6. Consequently, the institution selected and

TABLE 7-16
CAMPUS-BASED RESIDUAL STUDENT NEED ERROR BY VALIDATION STATUS AND DEPENDENCY STATUS, 1985-86

	NO ERROR	UNDERSTATEMENT			OVERSTATEMENTS			
	(Within $50) Percent	Percent	Mean	Total ($ Millions)	Percent	Mean	Total ($ Millions)	Awards in Excess of Need ($ Millions)
Pell Selected	44.8	22.3	621	57.0	32.9	978	132.8	34.0
Independent	38.2	18.2	904	23.9	43.7	1,513	96.2	25.6
Dependent	48.4	24.5	507	33.2	27.1	507	36.6	8.5
Institution Selected	28.5	22.8	855	102.8	48.8	1,204	309.5	67.3
Independent	24.9	21.2	1,399	52.0	53.9	1,631	154.0	27.3
Dependent	30.2	23.6	612	50.8	46.2	956	155.6	40.0
Not Selected	35.3	20.5	808	56.4	44.2	1,175	176.7	36.2
Independent	32.1	21.1	1,116	29.9	46.8	1,788	105.9	18.2
Dependent	37.2	20.2	616	26.5	42.6	777	70.7	18.0

not selected groups, because they include students not receiving Pell awards who are more error-prone, may well have begun the award process with higher error rates. This could help explain why the remaining error rates for institution selected and not selected cases were higher.

7.1.3 Institutional Validation in the GSL Program

The purpose of this section is to examine the extent and effectiveness of institutional validation in the GSL program. Validation rates for GSL recipients are presented by types of aid received. The effects of institutional validation on student certification error are also presented. As in the Campus-Based programs, institutions are not required to validate GSL recipients.

Table 7-17 gives validation rates for GSL recipients by types of other aid received. Students receiving only GSL funds were selected least frequently for institutional validation. Students with Campus-Based aid in addition to GSL funds but no Pell Grant, were institutionally validated most frequently. This indicates that institutions are not as likely to validate students who receive no Campus-Based funds.

Validation of GSL recipients is likely to have an effect on student certification error only if a recipient's family AGI is above $30,000. Table 7-18 presents student certification error statistics by validation status for students whose net family AGI is over $30,000. The table

TABLE 7-17
EXTENT OF VALIDATION IN THE GSL PROGRAM BY TYPE OF AID RECEIVED, 1985-86

Type of Aid Received	PELL SELECTED	INSTITUTIONALLY SELECTED		NOT SELECTED	
	Percent of All Recipients	Percent of All Recipients	Percent of Those Not Pell Selected	Percent of All Recipients	Percent of Those Not Pell Selected
GSL Only	0	45.5	45.5	54.5	54.5
Pell and GSL	39.8	31.1	51.7	29.1	48.3
Campus-Based and GSL	0	67.9	67.9	32.1	32.1
Pell, Campus-Based, and GSL	50.2	28.1	56.4	21.7	43.6
Overall Percent of GSL Recipients	16.0	45.4	54.0	38.6	46.0

TABLE 7-18
RESIDUAL ERROR:
EFFECT OF VALIDATION ON STUDENT CERTIFICATION ERROR FOR STUDENTS WITH BEST FAMILY AGI OVER $30,000, 1985-86

Validation Status	NO ERROR	OVERCERTIFICATIONS		
	(Within $50) Percent	Percent	Mean	Total ($ Millions)*
Pell Selected	71.3	28.7	2126	9.6
Institution Selected	65.5	34.5	1185	223.4
Not Selected	72.4	27.7	1000	153.7

---

* Due to a revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

shows that the rate of certification error is actually higher among institution selected recipients than other recipients. As with Campus-Based validation, this rate is that of remaining error. Error removed by validation cannot be measured in the GSL program. The Pell selected group accounts for less than one-half of 1 percent of the total GSL population. In fact, only three sampled cases were found to be (1) selected for Pell validation, (2) above the $30,000 threshold, and (3) have student certification error. A GSL recipient whose best family AGI is over $30,000 and received a Pell Grant is likely to have reported less than $30,000 in family AGI. Two of the three sampled cases just mentioned fit this description. This explains the relatively high mean error for these recipients.

7.2 QUALITY CONTROL OF INSTITUTIONAL PROCEDURES

In order to analyze the extent and effectiveness of institutional quality control (QC) procedures, the Institutional Questionnaire (IQ) gathered information on seven functional areas in delivering student aid. The IQ gathered information concerning verification of the following:

- Cost of attendance
- Enrollment status
- Award calculations
- Need adjustments
- Other aid received
- Amount of aid disbursed
- Satisfactory academic progress.

The IQ asked a series of questions for each of these areas in order to assess what quality control procedures institutions used, how often the procedures were employed, and what follow-up procedures an institution used after correcting an identified problem. Based upon initial analysis of this data, the responses given to these questions were grouped in categories according to the type of procedures used at the school. The data relating to the frequency of QC procedures and follow-up QC procedures were not easy to collapse in groups for analysis and did not appear to be related to error. We suspect that the responses to these secondary questions were imprecise and hence masked the underlying effects of the procedures. What was related to error, and hence important to analyze, was the type of QC procedures an institution used. Therefore, the focus of our analysis of the relationship between QC procedures and institutional error was on what QC procedures an institution used and not how often they employed them or what follow-up procedures the schools used.

7.2.1 Description of Framework Used for Categorizing Institutions

In order to place schools in categories for analyzing the effects of QC procedures on error, we used a two-step process. First, we determined all of the different types of QC procedures each institution used, and then grouped institutions according to the types of QC procedures they used.

In the first step, each individual QC procedure used by a school was placed in one of four categories. These four categories were:

- Automated QC procedures

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- Manual QC procedures
- Sampling
- Other auxiliary QC procedures.

Automated QC procedures included all types of QC checks that made use of automated technology. Automated QC procedures could include automated checking procedures of other aid a student is receiving, a student's cost of attendance category, or a student's enrollment status. In a similar fashion, manual QC procedures include all types of QC checks that are performed manually. The distinction between manual and automated QC procedures is not in the nature of the information checked, but rather in how the checks are performed. Sampling QC procedures are those that involve selecting students at random from a population and using the sample to confirm the validity of specific data items. Sampling is a relatively sophisticated QC procedure, and the fact that an institution uses sampling procedures could suggest a very sophisticated and comprehensive approach to quality control. The category "Other" includes all other auxiliary QC procedures that did not fit neatly in any of the previous categories. These procedures included checking with other offices, interviewing students, using internal audits and auditors, and using consultants.

In the second step, after determining which QC procedures an institution used, we developed groupings of QC procedures. These groupings were designed to be the focus for our analysis of the relationship between QC procedures and error. The analysis categories were mutually exclusive and totally exhaustive so that each institution would be categorized in one and only one group for analysis. The analysis groups we used are labeled as follows:

- Little or no QC
- Automated
- Sample
- Automated/Sample
- Manual/Other
- Manual or Other/Sample
- Mixed.

The automated group is composed of those schools that employed moderate to extensive use of automated QC checks with little or no use of any other QC procedures. The group of sampling schools relied only on moderate to extensive use of sampling QC procedures. Schools in the automated/sample category made moderate to extensive use of both automated QC procedures and sampling. The manual/other category included schools that had moderate to extensive use of manual QC procedures or moderate to extensive use of other auxiliary QC procedures. The manual or other/sample category included schools in either of the following categories:

- Moderate to extensive use of manual QC procedures and moderate to extensive use of sampling, or
- Moderate to extensive use of other auxiliary QC procedures and moderate to extensive use of sampling.

Schools in the Mixed category made moderate to extensive use of QC procedures with no particular category of procedure or procedures predominantly used. Finally, schools in the little or no QC category made little or no use of any QC procedures. Exhibit 7-2 summarizes each of the analysis groups just described and the procedures that constitute each of them.

QC ANALYSIS CATEGORY	*CORRESPONDING QC PROCEDURE(S)*
Little or No QC	Little of No Use of Any QC Procedures
Manual/Other	Moderate to Extensive Use of Manual QC Checks, or
	Moderate to Extensive Use of Other Auxiliary QC Procedures (e.g. Checking Other Offices, Interviewing Students, Using Internal Audits and Auditors, Using Consultants)
Mixed	Moderate to Extensive Use of QC Procedures with No Particular Procedure(s) Predominating
Automated	Moderate to Extensive Use of Automated QC Checks, Not in Conjunction with Other QC Procedures
Sample	Moderate to Extensive Use of Sampling Procedures, Not in Conjunction with Other QC Procedures
Manual or Other/Sample	Moderate to Extensive Use of Manual QC Procedures and Moderate to Extensive Use of Sampling, or
	Moderate to Extensive Use of Other QC Procedures and Moderate to Extensive Use of Sampling
Automated/Sample	Moderate to Extensive Use of Automation, and
	Moderate to Extensive Use of Sampling

EXHIBIT 7-2. FRAMEWORK FOR PLACING INSTITUTIONS IN CATEGORIES OF QUALITY CONTROL PROCEDURES FOR ANALYZING INSTITUTIONAL ERROR

7.2.2 Extent of Quality Control

As shown in Table 7-19, the use of QC procedures varied a great deal across institutions by type and control. Both 2-year public institutions and proprietary institutions relied upon manual or auxiliary QC procedures (37.4 percent of the recipients at all 2-year public institutions and 45.9 percent of the recipients at all proprietary institutions attended an institution that was in the manual/other category) while 4-year public schools made predominant use of automated and sampling procedures (32.7 percent of recipients at 4-year public schools were at an institution in the automated/sample category). Both 2-year and 4-year private schools predominantly used sampling and sampling in conjunction with either manual QC procedures or other auxiliary QC procedures (26.6 percent of the recipients at all 2-year private institutions attended a school in the sample category and 21.4 percent of the recipients at all 4-year private schools attended a school in the manual or other/sample category), respectively.

7.2.3 Relationship Between Quality Control and Institutional Error

As shown in Tables 7-20 and 7-21, the use of QC procedures is related to institutional error in the Pell and Campus-Based programs. Those recipients attending institutions with extensive use of sampling QC procedures had significantly lower rates of institutional error, particularly when sampling is used in conjunction with other QC procedures.

TABLE 7-19
INSTITUTIONAL QUALITY CONTROL PROCEDURES BY TYPE AND CONTROL OF INSTITUTION, 1985-86

PERCENT OF CASES

Institutional QC Procedures	2-Year Public	4-Year Public	2-Year Private	4-Year Private	Proprietary
Little or No QC (5.7% of all recipients)	5.3	1.9	7.3	11.6	6.5
Automated (16.4% of all recipients)	13.0	24.6	24.0	11.4	3.0
Sample (13.0% of all recipients)	14.5	13.5	26.6	8.5	16.5
Automated/Sample (19.4% of all recipients)	8.9	32.7	0.0	13.1	7.6
Manual/Other (19.9% of all recipients)	37.4	6.6	22.1	15.8	45.9
Manual or Other/Sample (12.0% of all recipients)	10.7	6.6	8.5	21.4	13.0
Mixed (13.6% of all recipients)	10.2	14.1	11.5	18.2	7.5

TABLE 7-20
INSTITUTIONAL PELL ERROR BY INSTITUTIONAL QUALITY CONTROL PROCEDURES, 1985-86

Institutional Quality Control Procedures	NO ERROR (Within $50) Percent	UNDERAWARD		OVERAWARD	
		Percent	Mean	Percent	Mean
Little or No Quality Control (6.2% of Pell recipients)	61.5	12.5	390	26.0	584
Mixed (11.4% of Pell recipients)	66.1	11.7	325	22.2	559
Automated (16.9% of Pell recipients)	68.4	8.6	361	23.1	520
Sample (14.3% of Pell recipients)	70.2	14.4	398	15.5	496
Automated/Sample (20.6% of Pell recipients)	76.8	8.0	328	15.2	479
Manual/Other (19.7% of Pell recipients)	62.6	16.2	482	21.2	472
Manual or Other/Sample (10.9% of Pell recipients)	81.8	10.4	315	7.8	380

CHI-SQUARE: 49.561
DF: 12
P-VALUE: 0.0001

TABLE 7-21
INSTITUTIONAL CAMPUS-BASED NEED ERROR BY INSTITUTIONAL QUALITY CONTROL PROCEDURES, 1985-86

QUALITY CONTROL PROCEDURES	NO ERROR (Within $50)	UNDERSTATEMENT		OVERSTATEMENT	
	Percent	Percent	Mean	Percent	Mean
Little or No QC (4.1% of Campus-Based recipients)	53.2	20.4	1,008	26.3	1,936
Mixed (11.6% of Campus-Based recipients)	73.5	14.8	638	11.7	816
Automated (18.3% of Campus-Based recipients)	61.9	20.4	691	17.7	859
Sample (12.3% of Campus-Based recipients)	67.8	14.4	575	17.9	960
Automated/Sample (23.3% of Campus-Based recipients)	76.3	12.0	541	11.7	881
Manual/Sample (16.5% of Campus-Based recipients)	61.6	15.4	617	23.0	1,055
Manual or Other/Sample (14.1% of Campus-Based recipients)	73.4	8.7	1,045	17.9	1,288

CHI-SQUARE: 61.816
DF: 12
P-VALUE: 0.0001

As shown previously, the findings for the Pell and Campus-Based programs were consistent with each other, while the findings for the GSL program were not; institutional quality control procedures were related to lower error rates in the Pell and Campus-Based programs, but were not in the GSL program.

In the Pell Grant program, recipients attending institutions categorized in the three groups of QC procedures that involved sampling had the three lowest institutional error rates, while recipients at institutions with little or no QC had the highest institutional error rates. The manual or other/sample group had the lowest frequency of Pell institution error with an 18.2 percent error rate; this was followed by the automated/sample group (23.2 percent) and the sample group (29.8 percent). Recipients attending schools with little or no QC had the highest rate of Pell institution error at 33.9 percent.

As shown in Table 7-20, results similar to the Pell program occur in the Campus-Based programs when relating Campus-Based institution error to the use of QC procedures. Recipients at schools in the automated/sample category had the lowest rate of institutional Campus-Based need error. Recipients attending schools with little or no QC had the highest rates of institutional Campus-Based need error. One minor difference from the results in the Pell program is that recipients at institutions in the mixed category followed those in the automated/sample category in having the lowest rate of institutional Campus-Based need error.

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TITLE IV QUALITY CONTROL PROJECT

CONTRACT NO: 300-84-0020

STAGE TWO
FINAL REPORT
VOLUME 1
APPENDIX TO FINDINGS

JUNE 1987

Advanced
Technology

TITLE IV QUALITY CONTROL STUDY

STAGE TWO

FINAL REPORT
VOLUME I
APPENDIX TO FINDINGS

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Debt Collection and Management Assistance Service
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JUNE 1987

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APPENDIX A

TITLE IV STUDENT AID PROGRAMS

A.1 THE TITLE IV PROGRAMS

Five major Federal programs of financial assistance to post-high school students have evolved from legislation of the 1960's and early 1970's. Collectively, these five programs are known as the "Title IV" programs after Title IV of the Higher Education Act (20 USC 1070a, b, 1071, 1087aa, and 2751; and 42 USC 2751) which, as amended, provides the legislative authority for them. (Two Title IV programs are not discussed here.) The five major Title IV programs can be divided into three groups: the Pell Grant program, the Campus-Based programs, and the Guaranteed Student Loan (GSL) program. Each is discussed below.

A.1.1 Description of the Pell Grant Program

The Pell Grant (formerly BEOG) program is an entitlement program for undergraduate students, designed to be the foundation upon which all other Federal, state, and private aid builds. The Pell Grant program was implemented in academic year 1973-74. Eligibility for the program is determined through a nationally uniform financial eligibility test, called the Family Contribution Schedule, developed by ED and approved by Congress every year. Usually, institutions disburse the funds directly to students based upon a payment schedule developed by ED. In addition, an alternate disbursement system operated by ED disbursed funds directly to eligible students attending a small number of institutions that elected not to administer the program. This alternate disbursement system ended after the 1986-87 academic year. Currently, awards range from $200 to $2,100 for full-time students. Awards are reduced proportionately for part-time students.

A.1.2 Description of the Campus-Based Programs

Each of the three Campus-Based programs is administered by participating postsecondary institutions. Each participating institution applies annually for subsequent year funds, and reports prior year activity on the "Fiscal Operations Report and Application to Participate in Federal Student Financial Aid Programs" (FISAP). The Campus-Based award process perhaps best demonstrates one of the major differences between these programs and, for instance, the Pell program. Individual institutions are free within the regulations to establish the parameters within which Campus-Based aid is awarded. Financial aid administrators at these institutions award Campus-Based funds in conjunction with other programs to meet student need as determined by an ED-approved need analysis procedure, most often the Uniform Methodology. Campus aid administrators tailor awards to meet this need according to available funds and the institutional aid packaging philosophy. This aid packaging philosophy may dictate the sequence, amount, or type of aid given and the percentage of need met for different types of students. Some institutions may make limited use of loans and work to freshmen, for instance, while awarding more loans to upper classmen. The following parts of this section describe essential components of each Campus-Based program.

- **National Direct Student Loan (NDSL)** - The NDSL program is the successor to the National Defense Student Loan program. NDSL capital contribution provides money to institutions so that they can make loans to needy students. This Federal capital is matched by the institution in 1:9 ratio. Additional funds for lending are generated through institutional collections of outstanding loans, commonly called the revolving fund.

- **College Work-Study (CW-S)** - CW-S is designed to enhance the availability of jobs for college students, undergraduate and graduate, through the provision of wage subsidies. The maximum Federal subsidy is 80 percent of wages, although employers may pay more than 20 percent of wages to further expand availability. The institution helps locate the jobs and monitors the program. Employers, which may be non-profit organizations, including the institution, pay students at least monthly for hours worked. Funds are allocated on a formula basis first to the state and then to the institution.

- **Supplemental Education Opportunity Grant (SEOG)** - SEOG's were formerly the Educational Opportunity Grants (EOG's). This program was originally authorized to provide support to "exceptionally needy" students with academic promise. In the course of reauthorization, particularly in 1972, the program has been altered slightly to supplement the Pell Grant for those students demonstrating need. Funds are allocated to the institution based on a two-stage formula. The first stage is a congressionally-mandated formula allocating the money to states, and the second stage is a formula based on the level of institutional need.

A.1.3 Description of the Guaranteed Student Loan Program

The Guaranteed Student Loan Program (GSL) provides the most financial assistance to postsecondary students of all Title IV programs. It makes available to students attending eligible postsecondary institutions loan funds with which to meet educational expenses. The program uses capital provided through private sector banks, savings and loan associations, credit unions, and educational and other financial entities. The Federal government subsidizes these loans through "special allowances" to lenders in order to increase lender yields to provide a more equitable return. In addition, the government pays the full interest on borrowed amounts when students are in school, in a "grace period," or during periods of deferment.

To receive a Federally-subsidized GSL, students must meet general eligibility criteria, similar to other Title IV programs, and also demonstrate financial need. If a student's or family's adjusted gross income (AGI) is less than or equal to $30,000 need is presumed. If AGI is greater than $30,000, a student must demonstrate need through need analysis. (This feature of the GSL program has subsequently changed. Now all students must demonstrate need.) Any student may receive a guaranteed student loan if a lending institution is willing to approve it, although those not demonstrating need will not qualify for the Federal interest subsidies. Students can borrow up to $2,500 per year to a maximum of $12,000; graduate students can borrow up to $5,000 per year to a lifetime maximum of $25,000.

GSL's are guaranteed by state agencies or non-profit agencies acting for the state. This guarantee protects lenders against borrower default on loans. State agencies are reinsured by the Federal government.

Students are responsible for repayment of loans after ceasing at least half time enrollment and after a brief grace period. During repayment, students pay both the principal and interest, while the Federal government continues to pay the "special allowance," the difference between the interest rate charged (7, 8, or 9 percent) and the prevailing interest rate for Treasury bills. The maximum repayment period is 10 years.

A.2 OVERVIEW OF THE TITLE IV DELIVERY SYSTEM

This section provides brief descriptions of the delivery system for each of the following Federal Student Aid programs: Pell, Campus-Based (SEOG, NDSL, and CW-S), and GSL. The delivery system is the administrative structure and interrelationship of all parties resulting in the transfer of student aid funds from ED to eligible students. The delivery system for each program, like the programs themselves, exhibits significant differences that must be taken into account in any quality control study.

Pell Grant Program. The Pell program represents perhaps the most direct Federal involvement in the delivery of student aid. In this program, students apply to either the Pell processor, contracted by ED, or MDE's and directly receive eligibility reports (SAR's). Students present the SAR's to institutions and, on the basis of the student aid index (SAI) and cost of education, institutions compute the students' Pell Grants through the Pell Grant payment schedule, published by ED.

ED develops budget forecasts and establishes initial institutional authorization levels for Regular Disbursement System (RDS) institutions prior to the beginning of the academic year. Institutions may subsequently request adjustments through ad hoc reports and the submission of SAR's to ED.

Institutions disburse funds directly to students after validating SAR's that have been selected by the processor. Instititutions maintain records, reconcile student and institutional accounts, and collect overpayments. At least binannually, the institutions must audit program records and ED may conduct program reviews.

Campus-Based Programs. In the Campus-Based delivery system, participating institutions annually complete the FISAP that comprises both an annual report for the past year and an application for program funds for the subsequent academic year. ED allocates program funds to institutions on a two-stage formula basis. Students complete and submit a financial statement to a third-party processor or to the institutions they plan to attend. Processors generate an expected family contribution (EFC) from financial and demographic data submitted by the student and forward a report to institutions indicated by the student on the financial statement.

Campus-Based financial aid administrators evaluate the students' eligibility status and need analysis reports and make awards from one or more of the Campus-Based programs taking into account the EFC, other aid (Pell, state, institutional, and private), the institution's aid packaging philosophy and policies, available program funds and educational costs. Financial aid administrators have discretion to alter the EFC on a case-by-case basis if additional information indicates that the EFC fails to represent accurately the actual family or student financial condition. (Financial aid administrators also have this discretion in the Pell Grant program.)

The institution must notify students of awards from each of the Campus-Based sources. Students must accept or decline individual awards. Students also must sign a promissory note if they accept NDSLs.

Institutions disburse NDSL and SEOG funds at least twice a year and CW-S funds at least once a month. Student accounts may be directly credited with SEOG and NDSL awards, with amounts in excess of institutional bills paid to students. At least the Federal portion of CW-S must be paid as wages by check to the student.

Institutions have the general responsibility for keeping program and student records. Institutions must collect outstanding NDSLs, the revenue from which provides additional institutional loan funds. Institutions are responsible for deferring or cancelling loans. Institutions must also collect or credit to following year student resources any overpayments to students from Campus-Based funds that result from the receipt of additional or unanticipated aid or work funds. Institutions must reconcile program accounts annually and conduct account audits at least biannually. ED may conduct program reviews based on a series of program criteria.

Guaranteed Student Loan Program (GSL). The GSL delivery system is substantially different from that of the other Title IV programs because it adds two other groups of direct participants, state or private non-profit guarantee agencies and lending institutions. In addition, a host of indirect participants may also play roles in the delivery system, including the Student Loan Marketing Association (Sallie Mae) and other secondary markets, commercial billing agencies, and commercial collection agencies.

Each student desiring a GSL completes an application and submits it to the institution of expected attendance. The institution determines student eligibility status and, through need analysis reports, the institution calculates EFC and sets the maximum loan limit up to existing need.

The application is forwarded to the lender, which determines the actual loan amount and forwards the application to the appropriate guarantee agency. The guarantee agency reviews the application and approves or disapproves the application for guarantee.

If approved, the lender issues a check, either to the student or to both the student and the institution. The Federal government pays the lender interest payments plus special allowances while the student is in school and during other periods of deferment. ED also pays administrative allowances to guarantee agencies. As long as borrowers maintain at least half-time enrollment, and during a grace period of up to 12 months after the student is no longer enrolled at least half time, loan payments may be deferred. Students enter repayment after a grace period of six months following termination of enrollment.

Lenders are responsible for collecting loans from borrowers, although they may sell the notes or contract servicing agencies to collect for them. Regulations prescribe detailed procedures in the case of default on loans.

APPENDIX B

POPULATION CHARACTERISTICS

TABLE B-1

ESTIMATED* JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS, 1985-86

GSL Certification	Pell Grant	Campus-Based	No. of Students	Average Award ($)					
				NDSL	CW-S	SEOG	Combined C-B	PELL	GSL
No GSL Certification	No Pell Grant	NDSL	35,026	1,061.90			1,061.90		
		CW-S	20,597		863.49		863.49		
		SEOG	16,765			576.31	576.31		
		NDSL & CW-S	18,850	885.32	1,018.19		1,903.51		
		NDSL & SEOG	23,043	864.00		663.16	1,527.16		
		CW-S & SEOG	13,465		1,302.68	771.45	2,074.13		
		NDSL, CW-S & SEOG	12,373	1,041.22	1,156.72	798.38	2,996.32		
		Marginal Average Award		970.68	1,054.31	688.68	1,432.42		
		Marginal Total Students	140,120	89,292	65,285	65,646	140,120		
	Pell Grant	No Campus-Based	968,314					1,174.83	
		NDSL	81,881	986.26			986.26	1,323.25	
		CW-S	132,568		1,188.10		1,188.10	1,241.26	
		SEOG	95,544			471.21	471.21	1,179.48	
		NDSL & CW-S	45,088	932.17	1,112.06		2,044.23	1,570.68	
		NDSL & SEOG	55,215	906.04		626.91	1,532.95	1,342.05	
		CW-S & SEOG	63,427		1,282.35	497.74	1,780.09	1,313.08	
		NDSL, CW-S & SEOG	42,121	1,061.41	1,259.45	748.74	3,069.59	1,444.84	
		Marginal Average Award		969.75	1,207.71	556.92	1,351.16	1,221.07	
		Marginal Total Students	1,484,158	224,305	283,204	256,307	515,844	1,484,158	
	Marginal Average Award			970.02	1,178.98	583.79	1,368.42	1,221.07	
	Marginal Total Students		1,624,278	313,597	348,489	321,953	655,964	1,484,158	
GSL Certification**	No Pell Grant	No Campus-Based	1,905,455						2,681.59
		NDSL	66,072	1,205.45			1,205.45		3,449.37
		CW-S	90,490		1,136.87		1,136.87		2,528.42
		SEOG	19,756			697.59	697.59		2,477.14
		NDSL & CW-S	52,388	1,114.23	1,446.69		2,560.91		2,622.64
		NDSL & SEOG	24,500	1,245.76		1,026.48	2,272.24		2,227.58
		CW-S & SEOG	38,496		1,256.35	719.97	1,976.32		2,222.61
		NDSL, CW-S & SEOG	29,409	927.72	1,112.18	902.64	2,942.54		2,361.04
		Marginal Average Award		1,136.07	1,232.25	830.88	1,688.88		2,677.79
		Marginal Total Students	2,226,564	172,369	172,287	73,655	321,109		2,226,564
	Pell Grant	No Campus-Based	726,295					1,335.03	2,313.29
		NDSL	66,429	880.56			880.56	1,418.39	2,181.04
		CW-S	97,825		1,103.50		1,103.50	1,447.63	2,187.24
		SEOG	93,264			503.27	503.27	1,394.07	2,297.26
		NDSL & CW-S	47,931	920.55	1,151.38		2,071.93	1,363.57	2,089.54
		NDSL & SEOG	36,783	914.77		760.61	1,675.38	1,361.52	2,296.67
		CW-S & SEOG	56,149		1,166.84	747.04	1,913.87	1,432.23	2,306.85
		NDSL, CW-S & SEOG	79,449	957.15	1,161.80	772.69	2,891.64	1,456.92	2,252.33
		Marginal Average Award		920.72	1,140.76	671.00	1,486.68	1,367.87	2,280.78
		Marginal Total Students	1,204,125	230,592	281,354	265,645	477,830	1,204,125	1,204,125
	Marginal Average Award			1,012.83	1,179.94	718.47	1,568.45	1,367.87	2,538.44
	Marginal Total Students		3,430,689	402,961	453,641	339,300	798,939	1,204,125	3,430,689
Overall Average Award				994.10	1,179.54	656.50	1,478.25	1,286.82	2,538.44
Grand Total Students			5,054,967	716,558	802,130	661,253	1,454,903	2,688,283	3,430,689

* These figures were based on program estimates at the time of the study and do not reflect final figures.

** Due to a revision in the estimate of total GSL loan volume, the estimates of the number of students participating will change by as much as 10 percent.

TABLE B-2

DISTRIBUTION OF TITLE IV FUNDS BY PROGRAM, 1985-86*

	Pell	GSL	Campus-Based			
			SEOG	NDSL	CW-S	All C-B
NUMBER OF RECIPIENTS	2,797,830 (1,966)	3,920,549** (1,378)	612,489 (709)	630,362 (733)	734,732 (892)	1,273,711 (1,576)
AVERAGE AWARD PER RECIPIENT	1,290.39 (1,313.25)	2,547.02 (2,390.09)	654.57 (641.32)	994.98 (968.66)	1,182.98 (1,168.44)	1,489.58 (1,433.33)
TOTAL FUNDS DISTRIBUTED	3,610,283,079 (2,581,859)	9,985,710,868** (3,293,543)	400,916,200 (506,645)	627,199,172 (710,030)	869,176,645 (1,042,246)	1,897,292,016 (2,258,921)

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* Numbers in parentheses represent sample statistics. All other numbers are population estimates as of the date of the study and do not reflect final figures.

** Due to a revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

TABLE B-3

DISTRIBUTION OF PELL AWARDS BY INCOME, 1985-86*

Income ($)	Number of Recipients	Percentage of Recipients	Average Award per Recipient	Total Awards	Percentage of Total Award
0-5,000	917,908	32.8	1,518	1,392,950,365	38.6
5,001-10,000	667,081	23.8	1,386	924,686,270	25.6
10,001-15,000	516,166	18.5	1,254	647,187,900	17.9
OVER 15,000	696,675	24.9	926	645,458,543	17.9
TOTAL	2,797,830	100.0	1,290	3,610,283,079	100.0

*These figures were based on program estimates at the time of the study and do not reflect final figures.

TABLE B-4

DISTRIBUTION OF CAMPUS-BASED AWARDS BY INCOME, 1985-86

Income ($)	Number of Recipients	Percentage of Recipients	Average Award per Recipient	Total Awards	Percentage of Total Award
0-5,000	290,386	22.7	1,363	395,799,082	20.9
5,001-10,000	241,458	18.9	1,595	385,078,579	20.3
10,001-15,000	201,674	15.7	1,375	277,335,120	14.6
OVER 15,000	547,674	42.7	1,532	839,079,235	44.2
TOTAL	1,281,192	100.0	1,481	1,897,292,016	100.0

TABLE B-5

DISTRIBUTION OF REPORTED CAMPUS-BASED NEED BY INCOME, 1985-86

Income ($)	Number of Recipients	Percentage of Recipients	Average Need per Recipient	Total Need	Percentage of Total Need
0-5,000	290,386	22.7	3,669	1,065,393,594	23.8
5,001-10,000	241,458	18.9	3,929	948,655,839	21.2
10,001-15,000	201,674	15.7	3,117	628,586,475	14.0
OVER 15,000	547,674	42.7	3,356	1,837,807,579	41.0
TOTAL	1,281,192	100.0	3,497	4,480,443,488	100.0

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TABLE B-6

DISTRIBUTION OF BEST CAMPUS-BASED NEED BY INCOME, 1985-86

Income ($)	Number of Recipients	Percentage of Recipients	Average Need per Recipient	Total Need	Percentage of Total Need
0-5,000	290,386	22.7	3,301	958,487,232	24.1
5,001-10,000	241,458	18.9	3,455	834,177,697	21.0
10,001-15,000	201,674	15.7	2,941	593,052,314	14.9
OVER 15,000	547,674	42.7	2,901	1,588,961,345	40.0
TOTAL	1,281,192	100.0	3,102	3,974,678,588	100.0

TABLE B-7

DISTRIBUTION OF CAMPUS-BASED AWARDS BY REPORTED AND BEST NEED, 1985-86

Reported Need ($)	Number of Recipients	Percentage of Recipients	Average Award per Recipient	Total Awards	Percentage of Total Award
1,000 OR LESS	103,950	8.1	600	62,343,480	3.3
1,001-2,000	251,715	19.8	974	245,139,951	12.9
2,001-3,000	276,426	21.6	1,342	370,907,248	19.6
3,001-4,000	241,635	18.9	1,486	359,122,602	18.9
4,001-5,000	150,081	11.7	1,949	292,560,212	15.4
OVER 5,000	257,386	20.1	2,204	567,218,523	29.9
Best Need ($)					
1,000 OR LESS	220,891	17.3	1,070	236,288,523	12.5
1,001-2,000	241,278	18.8	1,056	254,844,521	13.4
2,001-3,000	229,449	17.9	1,304	299,198,494	15.8
3,001-4,000	236,931	18.5	1,572	372,384,575	19.6
4,001-5,000	131,061	10.2	1,913	250,730,776	13.2
OVER 5,000	221,582	17.3	2,184	483,845,127	25.5
TOTAL	1,281,192	100.0	1,480	1,897,292,016	100.0

TABLE B-8

DISTRIBUTION OF GSL AWARDS BY INCOME, 1985-86

Income ($)	Number of Recipients*	Percentage of Recipients	Average Award per Recipient	Total Awards*	Percentage of Total Award
0-5,000	803,934	20.4	2,610	2,098,509,823	21.0
5,001-10,000	535,359	13.6	2,516	1,347,001,400	13.5
10,001-15,000	539,335	13.7	2,848	1,535,854,430	15.4
OVER 15,000	2,057,722	52.3	2,432	5,004,345,215	50.1
TOTAL	3,936,350	100.0	2,537	9,985,710,868	100.0

*Due to a revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

APPENDIX C

MARGINAL ERRORS

TABLE C-1
SIGNIFICANT COMPONENTS OF INSTITUTIONAL ERROR* IN THE PELL PROGRAM, 1985-86

Item	Percent of Cases With Errors	Mean Net Error	Overawards ($ Millions)	Underawards ($ Millions)	Net Error ($ Millions)
Enrollment Status Error	18.2	19	110.5	100.9	9.6
Cost of Attendance Error	7.3	41	32.3	24.0	8.3
Calculation Error	7.8	17	47.6	43.9	3.7
Categorical Error	4.1	997	114.2	N/A	114.2
-- Award to Student Without a Statement of Educational Purpose	0.7	1356	28.1	N/A	28.1
-- Award to Student with a Bachelor's Degree	0.3	1569	13.6	N/A	13.6
-- Defaulted on Loan at Institution	0.2	754	4.7	N/A	4.7
-- Award to Student Without Selective Service Compliance Statement	1.0	1058	30.5	N/A	30.5
-- Payment of Second Installment of Aid Without Financial Aid Transcript	2.0	755	41.2	N/A	41.2
-- Payment of Subsequent Disbursement to Student Not Making Satisfactory Academic Progress	0.1	884	3.2	N/A	3.2
-- Award to Non-Citizen	0.0	0.0	0.0	0.0	0.0

*Using a ±$50 tolerance.

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TABLE C-2
SIGNIFICANT COMPONENTS OF INSTITUTIONAL NEED ERROR* IN THE CAMPUS-BASED PROGRAMS, 1985-86

Item	Percent of Cases With Errors	Mean Net Error	Overstatements ($ Millions)	Understatements ($ Millions)	Net Error ($ Millions)
Errors in Factoring Pell Awards	22.7	-112	70.9	103.6	-32.6
Cost of Attendance Error	2.6	-172	25.8	31.5	-5.7
EFC Error	0.4	134	1.6	0.9	0.7
Errors in Factoring GSL Awards	1.1	1240	23.3	6.4	16.9
Initial Overawards**	5.6	656	47.2	N/A	47.2
Disbursement Error**	4.3	784	42.8	N/A	42.8
Categorical Error**	3.1	1121	45.0	N/A	45.0
-- Award to Student with Bachelor's Degree	0.0	0.0	0.0	N/A	0.0
-- Payment of Subsequent Disbursement to Student Not Making Satisfactory Academic Progress	0.2	349	0.7	N/A	0.7
-- Defaulted on Loan at Institution	0.2	1391	3.4	N/A	3.4
-- Award to Student Without a Statement of Educational Purpose	1.0	1169	14.6	N/A	14.6
-- Award to Student Without Selective Service Compliance Statement	0.8	1406	13.8	N/A	13.8
-- Payment of Second Installment of Aid without Financial Aid Transcript	1.3	834	13.6	N/A	13.6
-- Award to Non-Citizen	0.0	0.0	0.0	0.0	0.0

*Using a ±$50 tolerance.

**Net Need Error = Awards in Excess of Need because all errors translate directly into payment overawards

TABLE C-3
SIGNIFICANT COMPONENTS OF INSTITUTIONAL CERTIFICATION ERROR* IN THE GSL PROGRAM, 1985-86

Item	Percent of Cases With Error	Mean Error	Total Overcertifications ($ Millions)**
Errors in Factoring Pell Awards	3.8	643	84.6
Cost of Attendance Error	0.2	635	5.3
EFC Error	6.2	1192	260.0
Errors in Factoring Other Aid	2.2	551	41.5
Errors in Factoring Campus-Based Aid	1.6	589	32.6
Initial Overawards	3.3	1117	129.9
Categorical Error	1.3	3043	142.8
-- Award to Student Without Selective Service Compliance Statement	0.9	3483	106.7
-- Defaulted on Loan at Institution	0.4	2419	35.7

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*Using a $50 tolerance.

**Due to a revision in the estimate of GSL loan volume, the figures should be reduced by approximately 10 percent.

TABLE C-4
SIGNIFICANT COMPONENTS OF STUDENT ERROR* IN THE PELL PROGRAM, 1985-86

Item	Percent of Cases With Errors	Mean Net Error	Overawards ($ Millions)	Underawards ($ Millions)	Net ($ Millions)
Total Other Non-Taxable Income	7.1	378	75.1	N/A	75.1
Home Equity	6.5	350	70.6	6.6	64.0
Dependency Status	2.2	742	48.8	3.4	45.4
Dependent Student/s Net Assets	7.4	172	35.5	N/A	35.5
Student's Expected Income	2.2	522	36.7	4.1	32.6
Household Size	9.4	114	56.2	26.3	29.9
Adjusted Gross Income	3.4	216	32.3	11.8	20.6
Number in College	4.4	151	29.7	11.2	18.4
Dependent's Adjusted Gross Income	1.1	227	9.1	2.4	6.8
Investment Equity	0.4	340	4.4	0.9	3.5
Aid to Families With Dependent Children	0.2	451	3.3	0.9	2.4
Dependent's Total Other Income	0.1	584	3.1	0.8	2.3
Business Farm Equity	0.2	361	2.0	0.3	1.7
Cash/Checking/Savings	0.8	73	2.9	1.3	1.5
Other Expected Income	0.1	360	1.0	N/A	1.0
Educational Veteran's Benefits	0.2	107	0.7	0.1	0.5
Dependent's Federal Taxes	0.3	48	0.7	0.3	0.3
Elementary/Secondary Tuition	0.4	8	0.6	0.5	0.1
Parent's Marital Status	0.1	39	0.2	0.1	0.1
Student's Spouse's Expected Income	0.0	0.0	0.0	0.0	0.0
Itemized Deductions	0.0	0.0	0.0	0.0	0.0
Student's Marital Status	0.0	0.0	0.0	0.0	0.0
IRS Exemptions	0.0	0.0	0.0	0.0	0.0
Mother/Spouse Portion of Income	1.2	-20	3.2	3.9	-0.6
Medical Expenses	0.7	-58	0.7	1.9	-1.2
Father/Student Portion of Income	1.7	-37	3.9	5.6	-1.7
Parent's Social Security Benefits	1.7	-95	9.3	13.7	-4.5
Federal Taxes Paid	5.2	-73	7.0	17.6	-10.6

*Using a ±$50 tolerance.

TABLE C-5
SIGNIFICANT COMPONENTS OF STUDENT NEED ERROR* IN THE CAMPUS-BASED PROGRAMS, 1985-86

Item	Percent of Cases With Errors	Mean Net Error	Overstatements ($ Millions)	Understatements ($ Millions)	Net Error ($ Millions)
Student's Expected Income	16.1	557	186.3	71.5	114.8
Other Expected Income	8.9	996	140.3	26.3	114.0
Household Size	12.6	363	81.6	22.8	58.7
Number in College	7.2	289	49.1	22.6	26.5
Dependency Status Error	3.2	641	41.4	15.4	26.0
Student's Spouse's Expected Income	3.5	548	49.8	25.2	24.5
Total Other Non-Taxable Income	13.9	133	42.5	18.8	23.7
Home Equity	14.1	127	58.0	35.1	22.9
Dependent Student's Net Assets	10.0	166	23.5	2.3	21.2
Parent's Social Security Benefits	1.2	463	8.5	1.2	7.3
Federal Taxes Paid	9.3	61	17.8	10.6	7.2
Father/Student Portion of Income	5.1	61	12.4	8.4	4.0
Investment Equity	2.1	151	7.2	3.2	4.0
Business/Farm Equity	0.6	345	3.6	1.0	2.7
Educational Veteran's Benefits	0.2	584	1.5	N/A	1.5
Itemized Deductions	0.4	122	0.7	0.1	0.6
Aid to Families With Dependent Children	0.2	94	0.7	0.5	0.2
Dependent's Total Other Income	0.0	-500	0.1	N/A	-0.1
IRS Exemptions	0.1	-255	0.02	0.3	-0.3
Elementary/Secondary Tuition	0.4	-60	0.1	0.4	-0.3
Parent's Marital Status	0.4	-116	0.3	0.9	-0.6
Student's Marital Status	0.6	-231	5.8	7.6	-1.8
Cash/Checking/Savings	4.5	-48	4.3	7.1	-2.8
Mother/Spouse Portion of Income	3.9	-61	6.8	9.9	-3.0
Dependent's Adjusted Gross Income	1.1	-256	2.9	6.4	-3.5
Adjusted Gross Income	8.6	-78	33.1	41.6	-8.5
Medical Expenses	6.1	-175	4.3	18.0	-13.7

*Using a ±$50 tolerance.

TABLE C-6
DISCREPANCY RATES*
OF STUDENT APPLICATION
ITEMS IN THE PELL PROGRAM,
DEPENDENT STUDENTS, 1985-86

Item	No Discrepancy	Reported Value Against Applicant		Reported Value Favoring Applicant	
	Percent	Percent	Mean	Percent	Mean
Total Other Non-Taxable Income	83.8	N/A	N/A	16.2	1,642
Home Equity	59.1	8.1	6,679	32.8	14,399
Dependent Student's Net Assets	70.4	N/A	N/A	29.6	342
Student's Expected Income	35.8	17.8	1,084	46.4	1,733
Adjusted Gross Income	89.8	4.7	2,768	5.4	5,147
Dependent's Adjusted Gross Income	63.1	14.1	664	22.9	2,314
Investment Equity	94.6	1.0	12,738	4.3	7,558
Aid to Families With Dependent Children	97.5	1.4	605	1.1	1,022
Dependent's Nontaxable Income	88.2	5.1	1,344	6.8	1,909
Business/Farm Equity	96.6	1.8	40,111	1.7	36,914
Cash/Checking/Savings	69.5	8.1	5,628	22.4	953
Expected Nontaxable Income	92.3	2.3	1,062	5.4	1,960
Educational Veteran's Benefits	99.6	0.4	376	0.1	342
Dependent's Federal Taxes	92.2	4.3	278	3.6	272
Elementary/Secondary Tuition	98.3	1.0	345	0.6	505
Student's Spouse's Expected Income	99.8	N/A	N/A	0.2	3,384
Mother/Spouse Portion of Income	85.6	7.1	2,197	7.3	4,039
Medical Expenses	78.1	15.3	932	6.6	699
Father/Student Portion of Income	78.5	11.6	5,586	9.9	6,486
Social Security Benefits	94.6	1.6	2,733	3.8	2,679
Federal Taxes Paid	78.9	14.9	789	6.1	752
Household Size	70.4	9.8	N/A	19.8	N/A
Number in College	83.6	7.3	N/A	9.1	N/A
IRS Exemptions	94.2	N/A	N/A	N/A	N/A
Parent's Marital Status	99.6	N/A	N/A	N/A	N/A
Student's Marital Status	99.8	N/A	N/A	N/A	N/A

* Using a ± $50 tolerance and excluding dependency status switchers.

TABLE C-7
DISCREPANCY RATES* OF STUDENT APPLICATION ITEMS IN THE PELL PROGRAM, INDEPENDENT STUDENTS, 1985-86

	No Discrepancy	Reported Value Against Applicant		Reported Value Favoring Applicant	
Item	Percent	Percent	Mean	Percent	Mean
Total Other Non-Taxable Income	75.3	N/A	N/A	24.7	1,608
Home Equity	91.0	2.0	5,867	7.0	6,372
Student's Expected Income	37.0	20.2	2,159	42.7	2,875
Adjusted Gross Income	86.8	5.1	1,811	8.0	9,209
Investment Equity	98.8	0.5	9,011	0.7	5,201
Aid to Families With Dependent Children	95.3	1.8	890	2.8	1,356
Business/Farm Equity	99.5	0.3	25,401	0.2	2,500
Cash/Checking/Savings	78.2	2.9	724	18.9	349
Expected Nontaxable Income	69.5	11.0	2,237	19.6	2,249
Educational Veteran's Benefits	98.3	1.0	1,373	0.7	2,711
Elementary/Secondary Tuition	99.8	0.2	304	0.0	0.0
Student's Spouse's Expected Income	79.4	7.9	3,548	12.6	2,944
Mother/Spouse Portion of Income	93.7	3.6	2,220	2.7	4,480
Medical Expenses	94.5	3.3	442	2.1	356
Father/Student Portion of Income	83.2	4.3	872	12.6	3,822
Social Security Benefits	95.8	4.2	3,875	0.0	0.0
Federal Taxes Paid	87.4	8.6	401	3.9	301
Household Size	86.6	8.1	N/A	5.4	N/A
Number in College	92.6	4.0	N/A	3.3	N/A
IRS Exemptions	92.5	N/A	N/A	N/A	N/A
Student's Marital Status	99.6	N/A	N/A	N/A	N/A

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* Using a ± $50 tolerance and excluding dependency status switchers.

TABLE C-8
DISCREPANCY RATES* OF STUDENT APPLICATION ITEMS IN THE PELL PROGRAM, ALL STUDENTS, 1985-86

Item	No Discrepancy	Reported Value Against Applicant		Reported Value Favoring Applicant	
	Percent	Percent	Mean	Percent	Mean
Total Other Non-Taxable Income	80.0	N/A	N/A	20.0	1,624
Home Equity	73.3	5.4	6,546	21.3	13,224
Dependent Student's Net Assets	83.5	N/A	N/A	16.5	342
Student's Expected Income	36.3	18.9	1,596	44.8	2,219
Adjusted Gross Income	88.5	4.9	2,323	6.6	7,352
Dependent's Adjusted Gross Income	79.5	7.8	664	12.7	2,314
Investment Equity	96.5	0.8	11,727	2.7	7,287
Aid to Families With Dependent Children	96.5	1.6	751	1.9	1,248
Dependent's Nontaxable Income	93.4	2.8	1,344	3.8	1,909
Business/Farm Equity	97.9	1.1	38,460	1.0	33,711
Cash/Checking/Savings	73.4	5.8	4,539	20.8	709
Expected Nontaxable Income	82.1	6.1	1,998	11.7	2,175
Educational Veteran's Benefits	99.0	0.7	1,074	0.3	2,396
Dependent's Federal Taxes	95.6	2.4	278	2.0	272
Elementary/Secondary Tuition	99.0	0.7	338	0.3	505
Student's Spouse's Expected Income	90.7	3.5	3,548	5.7	2,952
Mother/Spouse Portion of Income	89.2	5.5	2,204	5.2	4,140
Medical Expenses	85.4	10.0	859	4.6	628
Father/Student Portion of Income	80.6	8.3	4,514	11.1	5,138
Social Security Benefits	95.2	2.7	3,509	2.1	2,679
Federal Taxes Paid	82.7	12.1	666	5.1	999
Household Size	77.6	9.0	N/A	13.4	N/A
Number in College	87.6	5.8	N/A	6.5	N/A
IRS Exemptions	93.6	N/A	N/A	N/A	N/A
Student's Marital Status	99.7	N/A	N/A	N/A	N/A

*Using a ± $50 tolerance and excluding dependency status switchers.

TABLE C-9
DISCREPANCY RATES*
OF STUDENT APPLICATION
ITEMS IN THE CAMPUS-BASED PROGRAMS, DEPENDENT STUDENTS, 1985-86

	No Discrepancy	Reported Value Against Applicant		Reported Value Favoring Applicant	
Item	Percent	Percent	Mean	Percent	Mean
Student's Expected Income	30.4	21.0	936	48.6	1,489
Expected Nontaxable Income	95.8	1.2	388	3.0	1,593
Student's Spouse's Expected Income	99.9	N/A	N/A	0.1	900
Other Nontaxable Income	68.9	N/A	N/A	31.1	1,177
Home Equity	53.0	9.8	22,969	37.2	15,869
Dependent Student's Net Assets	65.6	N/A	N/A	34.4	451
Social Security Benefits	96.7	0.9	4,174	2.3	2,906
Federal Taxes Paid	73.9	18.0	1,224	8.1	1,374
Father/Student Portion of Income	72.9	13.9	6,778	13.2	6,220
Investment Equity	93.3	1.7	11,696	5.0	7,507
Business/Farm Equity	97.7	1.2	38,162	1.2	70,764
Educational Veteran's Benefits	100.0	0.0	0.0	0.0	0.0
Aid to Families With Dependent Children	99.1	0.4	1,414	0.5	580
Dependent's Nontaxable Income	93.0	3.0	1,836	4.0	1,615
Elementary/Secondary Tuition	98.2	1.4	668	0.3	579
Cash/Checking/Savings	68.3	11.8	4,595	19.9	1,296
Mother/Spouse Portion of Income	80.3	9.9	3,483	9.8	5,102
Dependent's Adjusted Gross Income	77.3	5.4	1,798	17.3	1,957
Dependent's Federal Taxes	90.2	5.5	289	4.3	510
Adjusted Gross Income	83.4	7.4	6,353	9.1	3,504
Medical Expenses	68.0	20.0	1,065	12.0	709
Household Size	72.9	7.4	N/A	19.6	N/A
Number in College	84.0	5.0	N/A	11.0	N/A
IRS Exemptions	93.2	N/A	N/A	N/A	N/A
Parent's Marital Status	98.5	N/A	N/A	N/A	N/A
Student's Marital Status	99.8	N/A	N/A	N/A	N/A

* Using a ± $50 tolerance and excluding dependency status switchers.

TABLE C-10
DISCREPANCY RATES* OF STUDENT APPLICATION ITEMS IN THE CAMPUS-BASED PROGRAMS, INDEPENDENT STUDENTS, 1985-86

	No Discrepancy	Reported Value Against Applicant		Reported Value Favoring Applicant	
Item	Percent	Percent	Mean	Percent	Mean
Student's Expected Income	30.0	24.1	1,974	46.0	3,027
Expected Nontaxable Income	78.6	5.9	1,163	15.5	2,524
Student's Spouse's Expected Income	84.6	6.0	2,776	9.3	4,766
Other Nontaxable Income	80.7	N/A	N/A	19.3	1,192
Home Equity	93.4	2.7	5,570	3.9	6,323
Social Security Benefits	97.8	2.2	3,794	0.0	0.0
Federal Taxes Paid	84.4	9.5	625	6.1	723
Father/Student Portion of Income	81.6	4.5	706	13.9	3,368
Investment Equity	98.5	0.0	0.0	1.5	3,097
Business/Farm Equity	99.7	0.3	30,000	0.0	0.0
Educational Veteran's Benefits	99.2	0.2	108	0.6	779
Aid to Families With Dependent Children	97.6	0.9	474	1.6	601
Elementary/Secondary Tuition	99.8	0.2	60	0.0	0.0
Cash/Checking/Savings	76.0	4.1	584	19.8	415
Mother/Spouse Portion of Income	93.1	3.8	5,551	3.1	3,577
Adjusted Gross Income	80.8	10.8	2,610	8.4	2,944
Medical Expenses	93.5	3.8	945	2.6	369
Household Size	87.0	7.7	N/A	5.4	N/A
Number in College	93.4	4.3	N/A	2.4	N/A
IRS Exemptions	94.5	N/A	N/A	N/A	N/A
Student's Marital Status	98.8	N/A	N/A	N/A	N/A

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* Using a ± $50 tolerance and excluding dependency status switchers.

TABLE C-11
DISCREPANCY RATES* OF STUDENT APPLICATION ITEMS IN THE CAMPUS-BASED PROGRAM, ALL STUDENTS, 1985-86

Item	No Discrepancy	Reported Value Against Applicant		Reported Value Favoring Applicant	
	Percent	Percent	Mean	Percent	Mean
Student's Expected Income	30.3	22.0	1,311	47.7	1,978
Expected Nontaxable Income	90.1	2.8	933	7.1	2,263
Student's Spouse's Expected Income	94.9	2.0	2,776	3.1	4,698
Other Nontaxable Income	72.8	N/A	N/A	27.2	1,181
Home Equity	66.3	7.5	20,908	26.2	15,395
Dependent Student's Net Assets	77.0	N/A	N/A	23.0	451
Social Security Benefits	97.1	1.3	3,971	1.6	2,906
Federal Taxes Paid	77.4	15.2	1,100	7.4	1,197
Father/Student Portion of Income	75.8	10.8	5,936	13.5	5,247
Investment Equity	95.0	1.2	11,696	3.9	6,933
Business/Farm Equity	98.4	0.9	37,342	0.8	70,764
Educational Veteran's Benefits	99.7	0.1	108	0.2	779
Aid to Families With Dependent Children	98.6	0.6	923	0.9	593
Dependent's Nontaxable Income	95.3	2.0	1,836	2.7	1,615
Elementary/Secondary Tuition	98.8	1.0	636	0.2	579
Cash/Checking/Savings	70.9	9.2	4,001	19.9	1,006
Mother/Spouse Portion of Income	84.5	7.9	3,812	7.6	4,898
Dependent's Adjusted Gross Income	84.8	3.6	1,798	11.6	1,957
Dependent's Federal Taxes	93.4	3.7	289	2.9	510
Adjusted Gross Income	82.6	8.5	4,789	8.9	3,328
Medical Expenses	76.4	14.7	1,054	8.9	676
Household Size	77.6	7.5	N/A	14.9	N/A
Number in College	87.1	4.7	N/A	8.1	N/A
IRS Exemptions	93.6	N/A	N/A	N/A	N/A
Student's Marital Status	99.5	N/A	N/A	N/A	N/A

*Using a ± $50 tolerance and excluding dependency status switchers.

APPENDIX D

CHARACTERISTICS TESTED FOR ASSOCIATION WITH ERROR

PELL STUDENT ERROR
BY

* PELL EFFECTIVE FAMILY INCOME
* CAR HOUSEHOLD SIZE
CAR STUDENT MARITAL STATUS
* CAR PARENT MARITAL STATUS
SRA REPORTED YEAR IN COLLEGE
* CAR STUDENT AGE (ON APPLICATION DATE)
* IRS FILING STATUS
TYPE(S) OF AID RECEIVED
* DATE CAR APPLICATION WAS SIGNED
* CAR NUMBER IN COLLEGE
WAS THE STUDENT SELECTED FOR INSTITUTION VALIDATION
TOTAL NUMBER OF RECIPIENTS
NUMBER OF PELL RECIPIENTS
NUMBER OF CAMPUS-BASED RECIPIENTS
NUMBER OF GSL RECIPIENTS
ACADEMIC CALENDAR
PROFESSIONAL STAFF FTE
CLERICAL OR DATA ENTRY STAFF FTE
STUDENT WORKER FTE
USE OF AUTOMATED PROCEDURES
YEARS IN WHICH TAX FORMS ARE CHECKED
SELECTION FOR NON-PELL VALIDATION
WHO IS RESPONSIBLE FOR PELL VALIDATION
WHO IS RESPONSIBLE FOR NON-PELL VALIDATION
TIME PER STUDENT FOR PELL VALIDATION
TIME PER STUDENT FOR NON-PELL VALIDATION
NUMBER OF ITEMS CHECKED FOR NON-PELL VALIDATION
HOW SEP IS DETERMINED
HOW SAP IS DETERMINED
HOW ENROLLMENT STATUS IS DETERMINED
NEED ANALYSIS SYSTEM
FREQUENCY PELL DISBURSEMENTS
PELL DISBURSEMENT BY CHECK TO STUDENT FOR FULL AMOUNT
PELL DISBURSEMENT BY HAVING STUDENT SIGN CHECK OVER TO SCHOOL
PELL DISBURSEMENT BY CREDITING STUDENT'S ACCOUNT
PELL DISBURSEMENT BY CREDITING STUDENT'S ACCOUNT AND DISBURSING THE BALANCE TO THE STUDENT BY CHECK
WHEN DOES THE INSTITUTION REQUIRE TRANSFER STUDENTS TO SUBMIT A FINANCIAL AID TRANSCRIPT
* TYPE AND CONTROL

---

* Tested as significantly associated with error and discussed in Chapter 6.

PELL INSTITUTIONAL ERROR
BY

TOTAL NUMBER OF RECIPIENTS
* NUMBER OF PELL RECIPIENTS
NUMBER OF CAMPUS-BASED RECIPIENTS
NUMBER OF GSL RECIPIENTS
* ACADEMIC CALENDAR
* PROFESSIONAL STAFF FTE
* CLERICAL OR DATA ENTRY STAFF FTE
STUDENT WORKER FTE
* USE OF AUTOMATED PROCEDURES
YEARS IN WHICH TAX FORMS ARE CHECKED
SELECTION FOR NON-PELL VALIDATION
WHO IS RESPONSIBLE FOR PELL VALIDATION
WHO IS RESPONSIBLE FOR NON-PELL VALIDATION
TIME PER STUDENT FOR PELL VALIDATION
TIME PER STUDENT FOR NON-PELL VALIDATION
NUMBER OF ITEMS CHECKED FOR NON-PELL VALIDATION
HOW SEP IS DETERMINED
HOW SAP IS DETERMINED
HOW ENROLLMENT STATUS IS DETERMINED
NEED ANALYSIS SYSTEM
FREQUENCY PELL DISBURSEMENTS
PELL DISBURSEMENT BY CHECK TO STUDENT FOR FULL AMOUNT
PELL DISBURSEMENT BY HAVING STUDENT SIGN CHECK OVER TO SCHOOL
PELL DISBURSEMENT BY CREDITING STUDENT'S ACCOUNT
PELL DISBURSEMENT BY CREDITING STUDENT'S ACCOUNT AND DISBURSING THE BALANCE TO THE STUDENT BY CHECK
WHEN DOES THE INSTITUTION REQUIRE TRANSFER STUDENTS TO SUBMIT A FINANCIAL AID TRANSCRIPT
TOTAL NUMBER OF RECIPIENTS PER PROFESSIONAL STAFF FTE
TOTAL NUMBER OF RECIPIENTS PER CLERICAL OR DATA ENTRY STAFF FTE
TOTAL NUMBER OF RECIPIENTS PER STUDENT WORKER FTE
TOTAL NUMBER OF RECIPIENTS PER PROFESSIONAL STAFF, CLERICAL OR DATA ENTRY STAFF, AND STUDENT WORKER FTE
* TYPE AND CONTROL

---

* Tested as significantly associated with error and discussed in Chapter 6.

STUDENT CAMPUS-BASED NEED ERROR
BY

- * APPLICATION EFFECTIVE FAMILY INCOME
- * APPLICATION HOUSEHOLD SIZE
- * APPLICATION STUDENT MARITAL STATUS
- * APPLICATION PARENT MARITAL STATUS
- SRA REPORTED YEAR IN COLLEGE
- APPLICATION STUDENT AGE (ON APP DATE)
- * IRS FILING STATUS
- TYPE(S) OF AID RECEIVED
- DATE APPLICATION WAS SIGNED
- APPLICATION NUMBER IN COLLEGE
- WAS THE STUDENT SELECTED FOR INSTITUTION VALIDATION
- TOTAL NUMBER OF RECIPIENTS
- NUMBER OF PELL RECIPIENTS
- NUMBER OF CAMPUS BASED RECIPIENTS
- NUMBER OF GSL RECIPIENTS
- ACADEMIC CALENDAR
- PROFESSIONAL STAFF FTE
- CLERICAL OR DATA ENTRY STAFF FTE
- STUDENT WORKER FTE
- * USE OF AUTOMATED PROCEDURES
- YEARS IN WHICH TAX FORMS ARE CHECKED
- SELECTION FOR NON-PELL VALIDATION
- WHO IS RESPONSIBLE FOR PELL VALIDATION
- WHO IS RESPONSIBLE FOR NON-PELL VALIDATION
- TIME PER STUDENT FOR PELL VALIDATION
- TIME PER STUDENT FOR NON-PELL VALIDATION
- NUMBER OF ITEMS CHECKED FOR NON-PELL VALIDATION
- HOW SEP IS DETERMINED
- HOW SAP IS DETERMINED
- HOW ENROLLMENT STATUS IS DETERMINED
- HOW IS IT DETERMINED IF DEFAULT/REPAYMENT ON A PREVIOUS LOAN IS DUE AT THIS INSTITUTION BY THE STUDENT
- NEED ANALYSIS SYSTEM
- HOW IS OTHER AID EXPECTED DETERMINED
- HOW ARE CW-S PAYMENTS MONITORED
- HOW OFTEN ARE CW-S PAYMENTS CHECKED
- FREQUENCY OF SEOG DISBURSEMENTS
- FREQUENCY OF NDSL DISBURSEMENTS
- FREQUENCY OF CW-S DISBURSEMENTS

* Tested as significantly associated with error and discussed in Chapter 6.

STUDENT CAMPUS-BASED NEED ERROR
BY (CONTINUED)

SEOG DISBURSEMENTS BY CHECK TO STUDENT FOR FULL AMOUNT
NDSL DISBURSEMENTS BY CHECK TO STUDENT FOR FULL AMOUNT
CW-S DISBURSEMENTS BY CHECK TO STUDENT FOR FULL AMOUNT
SEOG DISBURSEMENT BY HAVING STUDENT SIGN CHECK OVER TO SCHOOL
NDSL DISBURSEMENT BY HAVING STUDENT SIGN CHECK OVER TO SCHOOL
CW-S DISBURSEMENT BY HAVING STUDENT SIGN CHECK OVER TO SCHOOL
SEOG DISBURSEMENT BY CREDITING STUDENT'S ACCOUNT
NDSL DISBURSEMENT BY CREDITING STUDENT'S ACCOUNT
CW-S DISBURSEMENT BY CREDITING STUDENT'S ACCOUNT
SEOG DISBURSEMENT BY CREDITING STUDENT'S ACCOUNT AND DISBURSING THE BALANCE TO THE STUDENT BY CHECK
NDSL DISBURSEMENT BY CREDITING STUDENT'S ACCOUNT AND DISBURSING THE BALANCE TO THE STUDENT BY CHECK
CW-S DISBURSEMENT BY CREDITING STUDENT'S ACCOUNT AND DISBURSING THE BALANCE TO THE STUDENT BY CHECK
WHEN DOES THE INSTITUTION REQUIRE TRANSFER STUDENTS SUBMIT A FINANCIAL AID TRANSCRIPT
TOTAL NUMBER OF RECIPIENTS PER PROFESSIONAL STAFF FTE
* TYPE AND CONTROL

---

* Tested as significantly associated with error and discussed in Chapter 6.

INSTITUTIONAL CAMPUS-BASED NEED ERROR
BY

TOTAL NUMBER OF RECIPIENTS
NUMBER OF PELL RECIPIENTS
* NUMBER OF CAMPUS-BASED RECIPIENTS
NUMBER OF GSL RECIPIENTS
* ACADEMIC CALENDAR
* PROFESSIONAL STAFF FTE
* CLERICAL OR DATA ENTRY STAFF FTE
STUDENT WORKER FTE
* USE OF AUTOMATED PROCEDURES
YEARS IN WHICH TAX FORMS ARE CHECKED
SELECTION FOR NON-PELL VALIDATION
WHO IS RESPONSIBLE FOR PELL VALIDATION
WHO IS RESPONSIBLE FOR NON-PELL VALIDATION
TIME PER STUDENT FOR PELL VALIDATION
TIME PER STUDENT FOR NON-PELL VALIDATION
NUMBER OF ITEMS CHECKED FOR NON-PELL VALIDATION
HOW SEP IS DETERMINED
HOW SAP IS DETERMINED
HOW ENROLLMENT STATUS IS DETERMINED
HOW IS IT DETERMINED IF DEFAULT/REPAYMENT ON A PREVIOUS LOAN IS DUE AT THIS INSTITUTION BY THE STUDENT
NEED ANALYSIS SYSTEM
HOW IS OTHER AID EXPECTED DETERMINED
HOW ARE CW-S PAYMENTS MONITORED
HOW OFTEN ARE CW-S PAYMENTS CHECKED
FREQUENCY OF SEOG DISBURSEMENTS
FREQUENCY OF NDSL DISBURSEMENTS
FREQUENCY OF CW-S DISBURSEMENTS
SEOG DISBURSEMENTS BY CHECK TO STUDENT FOR FULL AMOUNT
NDSL DISBURSEMENTS BY CHECK TO STUDENT FOR FULL AMOUNT
CW-S DISBURSEMENTS BY CHECK TO STUDENT FOR FULL AMOUNT
SEOG DISBURSEMENT BY HAVING STUDENT SIGN CHECK OVER TO SCHOOL
NDSL DISBURSEMENT BY HAVING STUDENT SIGN CHECK OVER TO SCHOOL
CW-S DISBURSEMENT BY HAVING STUDENT SIGN CHECK OVER TO SCHOOL
SEOG DISBURSEMENT BY CREDITING STUDENT'S ACCOUNT
NDSL DISBURSEMENT BY CREDITING STUDENT'S ACCOUNT
CW-S DISBURSEMENT BY CREDITING STUDENT'S ACCOUNT

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* Tested as significantly associated with error and discussed in Chapter 6.

INSTITUTIONAL CAMPUS-BASED NEED ERROR BY (CONTINUED)

SEOG DISBURSEMENT BY CREDITING STUDENT'S ACCOUNT AND DISBURSING THE BALANCE TO THE STUDENT BY CHECK
NDSL DISBURSEMENT BY CREDITING STUDENT'S ACCOUNT AND DISBURSING THE BALANCE TO THE STUDENT BY CHECK
CW-S DISBURSEMENT BY CREDITING STUDENT'S ACCOUNT AND DISBURSING THE BALANCE TO THE STUDENT BY CHECK
WHEN DOES THE INSTITUTION REQUIRE TRANSFER STUDENTS TO SUBMIT A FINANCIAL AID TRANSCRIPT
TOTAL NUMBER OF RECIPIENTS PER PROFESSIONAL STAFF FTE
TOTAL NUMBER OF RECIPIENTS PER PROFESSIONAL STAFF FTE
TOTAL NUMBER OF RECIPIENTS PER CLERICAL OR DATA ENTRY STAFF FTE
TOTAL NUMBER OF RECIPIENTS PER STUDENT WORKER FTE
TOTAL NUMBER OF RECIPIENTS PER PROFESSIONAL STAFF, CLERICAL OR DATA ENTRY STAFF, AND STUDENT WORKER FTE
* TYPE AND CONTROL

---

* Tested as significantly associated with error and discussed in Chapter 6.

STUDENT GSL CERTIFICATION ERROR
BY

APPLICATION EFFECTIVE FAMILY INCOME
* APPLICATION HOUSEHOLD SIZE
APPLICATION STUDENT MARITAL STATUS
* APPLICATION PARENT MARITAL STATUS
* SRA REPORTED YEAR IN COLLEGE
APPLICATION STUDENT AGE (ON DATE OF APPLICATION)
* IRS FILING STATUS
TYPE(S) OF AID RECEIVED
DATE APPLICATION WAS SIGNED
APPLICATION NUMBER IN COLLEGE
WAS THE STUDENT SELECTED FOR INSTITUTION VALIDATION
TOTAL NUMBER OF RECIPIENTS
NUMBER OF PELL RECIPIENTS
NUMBER OF CAMPUS-BASED RECIPIENTS
NUMBER OF GSL RECIPIENTS
ACADEMIC CALENDAR
PROFESSIONAL STAFF FTE
CLERICAL OR DATA ENTRY STAFF FTE
STUDENT WORKER FTE
USE OF AUTOMATED PROCEDURES
YEARS IN WHICH TAX FORMS ARE CHECKED
SELECTION FOR NON-PELL VALIDATION
WHO IS RESPONSIBLE FOR PELL VALIDATION
WHO IS RESPONSIBLE FOR NON-PELL VALIDATION
TIME PER STUDENT FOR PELL VALIDATION
TIME PER STUDENT FOR NON-PELL VALIDATION
NUMBER OF ITEMS CHECKED FOR NON-PELL VALIDATION
HOW SEP IS DETERMINED
HOW SAP IS DETERMINED
HOW ENROLLMENT STATUS IS DETERMINED
HOW IS IT DETERMINED IF DEFAULT/REPAYMENT ON A PREVIOUS LOAN IS DUE AT THIS INSTITUTION BY THE STUDENT
NEED ANALYSIS SYSTEM
HOW IS OTHER AID EXPECTED DETERMINED
WHEN DOES THE INSTITUTION REQUIRE TRANSFER STUDENTS TO SUBMIT A FINANCIAL AID TRANSCRIPT
* TYPE AND CONTROL

* Tested as significantly associated with error and discussed in Chapter 6.

INSTITUTIONAL GSL CERTIFICATION ERROR
BY

TOTAL NUMBER OF RECIPIENTS
NUMBER OF PELL RECIPIENTS
NUMBER OF CAMPUS-BASED RECIPIENTS
* NUMBER OF GSL RECIPIENTS
* ACADEMIC CALENDAR
PROFESSIONAL STAFF FTE
CLERICAL OR DATA ENTRY STAFF FTE
STUDENT WORKER FTE
AUTOMATION FOR PRELIMINARY PACKAGING AND AWARD CALCULATION
AUTOMATION FOR AWARD LETTERS/ACCEPTANCES
AUTOMATION FOR AUTHORIZATION OF PAYMENTS
AUTOMATION FOR FUND BALANCES
AUTOMATION FOR MONITORING ENROLLMENT/SATISFACTORY ACADEMIC PROGRESS
AUTOMATION FOR STATISTICAL REPORTS
AUTOMATION FOR LOAN BILLING/DEFAULTS
AUTOMATION FOR DOCUMENT TRACKING
AUTOMATION FOR VERIFICATION TRACKING
YEARS IN WHICH TAX FORMS ARE CHECKED
SELECTION FOR NON-PELL VALIDATION
WHO IS RESPONSIBLE FOR PELL VALIDATION
WHO IS RESPONSIBLE FOR NON-PELL VALIDATION
TIME PER STUDENT FOR PELL VALIDATION
TIME PER STUDENT FOR NON-PELL VALIDATION
NUMBER OF ITEMS CHECKED FOR NON-PELL VALIDATION
HOW SEP IS DETERMINED
HOW SAP IS DETERMINED
HOW ENROLLMENT STATUS IS DETERMINED
HOW IS IT DETERMINED IF DEFAULT/REPAYMENT ON A PREVIOUS LOAN IS DUE AT THIS INSTITUTION BY THE STUDENT
* NEED ANALYSIS SYSTEM
HOW IS OTHER AID EXPECTED DETERMINED
WHEN DOES THE INSTITUTION REQUIRE TRANSFER STUDENTS TO SUBMIT A FINANCIAL AID TRANSCRIPT
TOTAL NUMBER OF RECIPIENTS PER PROFESSIONAL STAFF FTE
TOTAL NUMBER OF RECIPIENTS PER CLERICAL OR DATA ENTRY STAFF FTE
TOTAL NUMBER OF RECIPIENTS PER STUDENT WORKER FTE
TOTAL NUMBER OF RECIPIENTS PER PROFESSIONAL STAFF, CLERICAL OR DATA ENTRY STAFF, AND STUDENT WORKER FTE
* TYPE AND CONTROL

* Tested as significantly associated with error and discussed in Chapter 6.

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PELL COST OF ATTENDANCE (BROKEN OUT BY TUITION AND ROOM AND BOARD) BY LIVING ARRANGEMENTS, 1985-86

TUITION, ROOM AND BOARD, AND PELL COST OF ATTENDANCE
BY LIVING ARRANGEMENTS

	TUITION	TOTAL ROOM & BOARD	PELL COST OF ATTENDANCE	WEIGHTED
	MEAN	MEAN	MEAN	PERCENT
PELL LIVING ARRANGEMENTS				
ON-CAMPUS	2901.50	2299.27	5600.76	30.09
OFF-CAMPUS	1852.18	1492.18	3742.16	48.92
COMMUTER	1799.94	1105.79	3300.74	20.68
INCARCERATED	1570.13	0.00	1720.13	0.31
ALL	2093.31	1589.42	4081.20	100.00

TABLE E-2
PELL COST OF ATTENDANCE (BROKEN OUT BY TUITION AND ROOM AND BOARD) BY REPORTED DEPENDENCY STATUS, 1985-86

TUITION, ROOM AND BOARD, AND PELL COST OF ATTENDANCE
BY DEPENDENCY STATUS

	TUITION	TOTAL ROOM & BOARD	PELL COST OF ATTENDANCE	WEIGHTED
	MEAN	MEAN	MEAN	PERCENT
REPORTED DEPENDENCY STATUS				
INDEPENDENT	1844.66	1535.58	3775.47	43.36
DEPENDENT	2319.87	1639.01	4349.20	56.64
ALL	2099.03	1589.25	4085.19	100.00

TABLE E-3
PELL COST OF ATTENDANCE (BROKEN OUT BY TUITION AND ROOM AND BOARD) BY REPORTED EFFECTIVE FAMILY INCOME, 1985-86

TUITION, ROOM AND BOARD, AND PELL COST OF ATTENDANCE
BY REPORTED EFFECTIVE FAMILY INCOME

	TUITION	TOTAL ROOM & BOARD	PELL COST OF ATTENDANCE	WEIGHTED
	MEAN	MEAN	MEAN	PERCENT
REPORTED EFFECTIVE FAMILY INCOME				
0 - 5000	1987.69	1590.44	3921.89	31.62
5001 - 10000	1859.81	1567.46	3826.39	23.27
10001 - 15000	2144.80	1599.88	4144.02	18.71
OVER 15000	2458.10	1669.49	4521.69	26.40
ALL	2099.03	1589.25	4055.18	100.00

TABLE E-4
PELL COST OF ATTENDANCE (BROKEN OUT BY TUITION AND ROOM AND BOARD) BY REPORTED HOUSEHOLD SIZE, 1985-86

TUITION, ROOM AND BOARD, AND PELL COST OF ATTENDANCE
BY REPORTED HOUSEHOLD SIZE

	TUITION	TOTAL ROOM & BOARD	PELL COST OF ATTENDANCE	WEIGHTED
	MEAN	MEAN	MEAN	PERCENT
REPORTED HOUSEHOLD SIZE				
1	2186.00	1588.59	4169.25	21.01
2	1982.69	1591.87	3973.54	13.58
3	2060.42	1592.96	4019.46	19.53
4 OR 5	2044.53	1625.45	4099.19	33.01
6 OR MORE	2246.79	1543.83	4187.12	12.87
ALL	2099.03	1589.25	4085.18	100.00

TABLE E-5
PELL COST OF ATTENDANCE (BROKEN OUT BY TUITION AND ROOM AND BOARD) BY REPORTED NUMBER IN COLLEGE, 1985-86

TUITION, ROOM AND BOARD, AND PELL COST OF ATTENDANCE
BY REPORTED NUMBER IN COLLEGE

	TUITION	TOTAL ROOM & BOARD	PELL COST OF ATTENDANCE	WEIGHTED
	MEAN	MEAN	MEAN	PERCENT
REPORTED NUMBER IN COLLEGE				
1	2024.22	1560.94	3981.14	73.60
2	2289.66	1679.53	4362.28	20.96
3	2517.05	1645.96	4883.01	4.51
4 OR MORE	2019.39	1699.89	4049.29	0.92
ALL	2099.03	1589.25	4085.19	100.00

TABLE E-6
PELL COST OF ATTENDANCE (BROKEN OUT BY TUITION AND ROOM AND BOARD) BY TYPE AND CONTROL OF INSTITUTION, 1985-86

TUITION, ROOM AND BOARD, AND PELL COST OF TUITION
BY INSTITUTION TYPE AND CONTROL

	TUITION	TOTAL ROOM & BOARD	PELL COST OF ATTENDANCE	WEIGHTED
	MEAN	MEAN	MEAN	PERCENT
TYPE AND CONTROL				
2 YEAR PUBLIC	719.16	1378.02	2091.80	27.88
4 YEAR PUBLIC	1351.26	1692.87	3442.82	40.70
2 YEAR PRIVATE	3675.18	1466.26	5541.44	2.72
4 YEAR PRIVATE	5010.25	1914.56	7726.54	20.09
PROPRIETARY	3319.28	1282.75	4991.25	8.61
ALL	2099.03	1589.25	4099.18	100.00

TABLE E-7
PELL DISBURSEMENTS BY REPORTED EFFECTIVE FAMILY INCOME, 1985-86

PELL DISBURSEMENTS BY STUDENT CHARACTERISTICS

	PELL DISBURSEMENTS	WEIGHTED
	MEAN	PERCENT
APPLICATION EFFECTIVE FAMILY INCOME		
0 - 5000	1602.59	29.40
5001 - 10000	1426.54	22.01
10001 - 15000	1289.14	18.39
OVER 15000	910.67	30.20
ALL	1309.98	100.00

TABLE E-8
PELL DISBURSEMENTS BY REPORTED HOUSEHOLD SIZE, 1985-86

PELL DISBURSEMENTS BY STUDENT CHARACTERISTICS

	PELL DISBURSEMENTS	WEIGHTED
	MEAN	PERCENT
APPLICATION HOUSEHOLD SIZE		
1	1511.26	22.18
2	1240.52	12.96
3	1225.27	18.28
4 OR 5	1286.59	32.03
6 OR MORE	1227.42	14.55
ALL	1311.22	100.00

TABLE E-9
PELL DISBURSEMENTS BY REPORTED NUMBER IN COLLEGE, 1985-86

PELL DISBURSEMENTS BY STUDENT CHARACTERISTICS

	PELL DISBURSEMENTS	WEIGHTED
	MEAN	PERCENT
APPLICATION NUMBER IN COLLEGE		
1	1329.19	71.94
2	1262.38	21.62
3	1279.88	5.41
4 OR MORE	1237.46	1.03
ALL	1311.22	100.00

TABLE E-10
PELL DISBURSEMENTS BY REPORTED YEAR IN COLLEGE, 1985-86

PELL DISBURSEMENTS BY STUDENT CHARACTERISTICS

	PELL DISBURSEMENTS	WEIGHTED
	MEAN	PERCENT
APPLICATION YEAR IN COLLEGE		
OTHER	1398.87	3.94
FRESHMAN	1237.88	36.06
SOPHOMORE	1320.93	26.51
JUNIOR	1345.44	19.92
SENIOR	1425.24	13.57
ALL	1309.98	100.00

TABLE E-11
REPORTED STUDENT GENDER BY REPORTED DEPENDENCY STATUS, 1985-86

```
             PELL PROFILE OF RECIPIENTS

           TABLE OF S_SEX_V BY C_DATA_V

S_SEX_V    STUDENTS GENDER    C_DATA_V  REPORTED DEPENDENCY STATUS

FREQUENCY
 PERCENT
 ROW PCT
 COL PCT            INDEPEND DEPENDEN
                    ENT      T           TOTAL

NOT DETERMINED         4853     54565     59418
                       0.17      1.95      2.12
                       8.17     91.83
                       0.38      3.60

MALE                 502522    658032   1160554
                      17.96     23.52     41.48
                      43.30     56.70
                      39.14     43.47

FEMALE               776610    801239   1577849
                      27.76     28.64     56.40
                      49.22     50.78
                      60.48     52.93

TOTAL               1283989   1513832   2797817
                      45.89     54.11    100.00
```

TABLE E-12
REPORTED STUDENT MARITAL STATUS BY REPORTED DEPENDENCY STATUS, 1985-86

```
          PELL PROFILE OF RECIPIENTS

        TABLE OF C_SMAR_V BY C_DSTA_V

C_SMAR_V  STUDENT'S MARITAL STATUS   C_DSTA_V  REPORTED DEPENDENCY STATUS

FREQUENCY
 PERCENT
 ROW PCT
 COL PCT        INDEPEND DEPENDEN
                ENT      T          TOTAL

NOT DETERMINED      6969     4531    11500
                    0.25     0.16     0.41
                   60.60    39.40
                    0.54     0.30

NEVER MARRIED     792595  1496706  2289301
                   28.33    53.50    81.82
                   34.62    65.38
                   61.73    98.87

MARRIED           398960     6818   405778
                   14.26     0.24    14.50
                   98.32     1.68
                   31.07     0.45

SEPARATED          85462     5770    91232
                    3.05     0.21     3.26
                   93.68     6.32
                    6.66     0.38

TOTAL            1283986  1513826  2797812
                   45.89    54.11   100.00
```

TABLE E-13
REPORTED STUDENT AGE BY REPORTED DEPENDENCY STATUS, 1985-86

```
        PELL PROFILE OF RECIPIENTS

      TABLE OF C_SAGE_V BY C_DSTA_V

C_SAGE_V  STUDENT'S AGE   C_DSTA_V  REPORTED DEPENDENCY STATUS

FREQUENCY
 PERCENT
 ROW PCT
 COL PCT        INDEPEND DEPENDEN
                ENT      T          TOTAL

LESS THAN 18       7997   261404   269401
                   0.29     9.34     9.63
                   2.97    97.03
                   0.62    17.27

18,19 OR 20      199047   938172  1137219
                   7.11    33.53    40.65
                  17.50    82.50
                  15.50    61.97

OVER 20         1076940   314256  1391196
                  38.49    11.23    49.72
                  77.41    22.59
                  83.87    20.76

TOTAL           1283984  1513832  2797816
                  45.89    54.11   100.00
```

TABLE E-14
REPORTED EFFECTIVE FAMILY INCOME BY REPORTED DEPENDENCY STATUS, 1985-86

```
        PELL PROFILE OF RECIPIENTS

       TABLE OF C_EFI_V BY C_DSTA_V

C_EFI_V   REPORTED EFFECTIVE FAMILY INCOME   C_DSTA_V  REPORTED DEPENDENCY STATUS

FREQUENCY
 PERCENT
 ROW PCT
 COL PCT          INDEPEND DEPENDEN
                  ENT      T          TOTAL

0 - 5000           699025   220285   919310
                    24.98     7.87    32.86
                    76.04    23.96
                    54.44    14.55

5001 - 10000       359105   319070   678175
                    12.84    11.40    24.24
                    52.95    47.05
                    27.97    21.09

10001 - 15000      156613   368601   525214
                     5.60    13.17    18.77
                    29.82    70.18
                    12.20    24.35

OVER 15000          69244   605875   675119
                     2.47    21.66    24.13
                    10.26    89.74
                     5.39    40.02

TOTAL             1283986  1513832  2797818
                    45.89    54.11   100.00
```

TABLE E-15
LIVING ARRANGEMENTS BY REPORTED DEPENDENCY STATUS, 1985-86

```
          PELL PROFILE OF RECIPIENTS

          TABLE OF A_39 BY C_DSTA_V

A_39      PELL LIVING ARRANGEMENTS   C_DSTA_V  REPORTED DEPENDENCY STATUS

FREQUENCY
 PERCENT
 ROW PCT
 COL PCT        INDEPEND DEPENDEN
                ENT      T          TOTAL

NOT DETERMINED      1874     6294     8168
                    0.07     0.22     0.29
                   22.94    77.06
                    0.15     0.42

ON-CAMPUS         119928   569915   689843
                    4.29    20.37    24.66
                   17.38    82.62
                    9.34    37.65

OFF-CAMPUS       1076496   335513  1412009
                   38.48    11.99    50.47
                   76.25    23.75
                   83.84    22.16

COMMUTER           76683   602110   678793
                    2.74    21.52    24.26
                   11.30    88.70
                    5.97    39.77

INCARCERATED        9004        0     9004
                    0.32     0.00     0.32
                  100.00     0.00
                    0.70     0.00

TOTAL            1283985  1513832  2797817
                   45.89    54.11   100.00
```

TABLE E-16
REPORTED DEPENDENCY STATUS BY BEST TOTAL EARNINGS, 1985-86

PELL: REPORTED DEPENDENCY STATUS BY TOTAL EARNINGS

	TOTAL EARNINGS	WEIGHTED
	MEAN	PCTN
DEPENDENCY STATUS		
INDEPENDENT	2767.05	43.18
DEPENDENT	1994.74	56.82

TABLE E-17
MARGINAL AGI PELL ERROR BY AFDC REPORTED, 1985-86

AGI_PE BY AFDC_P

TOTAL

	MARGINAL AGI PELL ERROR						TOTAL	
	UNDERAWARD		WITHIN $50		OVERAWARD			
	PERCENT-AGE OF	TOTAL ERROR IN GROUP	PERCENT-AGE OF	TOTAL ERROR IN GROUP	PERCENT-AGE OF	TOTAL ERROR IN GROUP	PERCENT-AGE OF	TOTAL ERROR IN GROUP
AFDC REPORTED?	RECIPS W/ERROR	MEAN ERROR PER RECIP W/ERROR	RECIPS W/ERROR	MEAN ERROR PER RECIP W/ERROR	RECIPS W/ERROR	MEAN ERROR PER RECIP W/ERROR	RECIPS W/ERROR	MEAN ERROR PER RECIP W/ERROR
NO	1.69	-289	96.26	0	2.05	593	100.00	7
YES	0.27	-100	98.12	0	1.61	669	100.00	10
TOTAL	1.53	-286	96.46	0	2.01	600	100.00	8

TABLE E-18
MARGINAL OTHER NONTAXABLE INCOME ERROR BY AFDC REPORTED, 1985-86

ONTI_PE BY AFDC_F

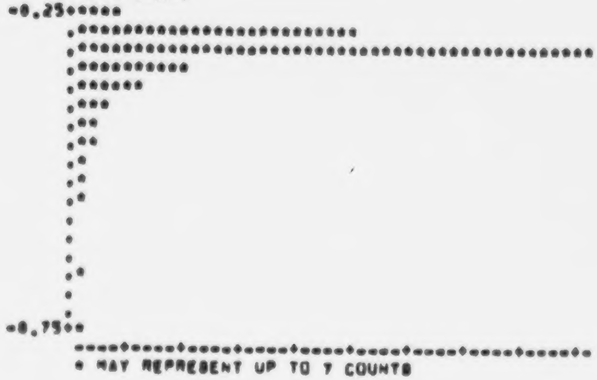
TOTAL

	MARGINAL ONTI PELL ERROR				TOTAL	
	WITHIN $50		OVERAWARD			
	PERCENT-AGE OF	TOTAL ERROR IN GROUP	PERCENT-AGE OF	TOTAL ERROR IN GROUP	PERCENT-AGE OF	TOTAL ERROR IN GROUP
	RECIPS W/ERROR	MEAN ERROR PER RECIP W/ERROR	RECIPS W/ERROR	MEAN ERROR PER RECIP W/ERROR	RECIPS W/ERROR	MEAN ERROR PER RECIP W/ERROR
AFDC REPORTED?						
NO	92.08	0	7.92	376	100.00	30
YES	96.98	0	3.02	427	100.00	13
TOTAL	92.62	0	7.38	378	100.00	28

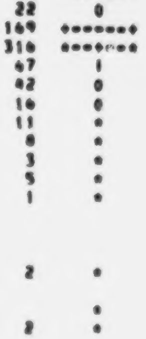
TABLE-E-19
DESCRIPTIVE STATISTICS OF RATIO OF SAI CHANGE TO CHANGES IN PELL AWARDS, 1985-86

```
                                  RATIO OF CHANGES IN SAI TO CHANGES IN AWARD
                                           WHERE ABS(P_ERR_S) GT 50

                                                     UNIVARIATE

VARIABLE=RATIO
WEIGHT    P_WT                FINAL PELL WEIGHT

                  MOMENTS                                              QUANTILES(DEF=4)                                              EXTREMES

N                 668      SUM WGTS      904813      100% MAX        -0.1        99%     -0.246561                     LOWEST        HIGHEST
MEAN         -1.38613      SUM         -1254187       75% Q3    -0.930625        95%     -0.560005                       -8.8          -0.24
STD DEV       38.3996      VARIANCE     1474.53       50% MED    -1.03258        90%     -0.760334                       -8.5          -0.23
SKEWNESS            .      KURTOSIS           .       25% Q1     -1.38045        10%      -2.11861                  -7.32836          -0.21
USS           2716075      CSS           977612        0% MIN        -8.8         5%      -2.93846                  -7.26154          -0.16
CV           -2770.28      STD MEAN   0.0403689                                   1%      -4.89815                     -5.35           -0.1
T:MEAN=0     -34.3365      PROB>|T|      0.0001      RANGE            8.7
SGN RANK      -110390      PROB>|S|      0.0001      Q3-Q1       0.449822
NUM ^= 0          668                                MODE              -1
```

BAR CHART



BOXPLOT



NORMAL PROBABILITY PLOT

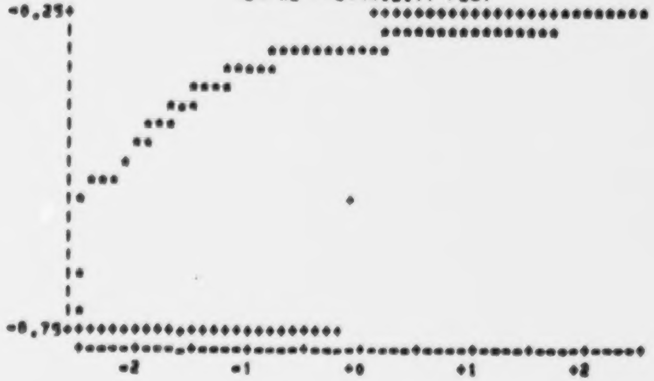


TABLE E-20
OVERALL PELL ERROR USING A $2 TOLERANCE, 1985-86

		OVERALL ERROR			ALL
		UNDERAWARD	NO ERROR (W/IN $2)	OVERAWARD	
OVERALL PELL ERROR	MEAN	-338.22	0.00	516.28	140.25
ABSOLUTE OVERALL PELL ERROR	MEAN	338.22	0.00	516.28	279.86
OVERALL PELL ERROR	SUM	-179914504	0.00	529097244.06	407182740.20
ABSOLUTE OVERALL PELL ERROR	SUM	179914503.79	0.00	529097244.06	709011747.85
(WEIGHTED)	NUMBER	531950.22	1124947.73	1141062.01	2797821.99
(WEIGHTED)	PERCENT	19.01	40.20	40.79	100.00
NUMBER		356.00	807.00	803.00	1966.00
PERCENT		18.11	41.05	40.84	100.00

TABLE E-21
PELL STUDENT ERROR USING A $2 TOLERANCE, 1985-86

		STUDENT ERROR			ALL
		UNDERAWARD	NO ERROR (W/IN $2)	OVERAWARD	
PELL STUDENT ERROR	MEAN	-313.08	0.00	982.44	98.54
ABSOLUTE PELL STUDENT ERROR	MEAN	313.08	0.00	982.44	158.67
PELL STUDENT ERROR	SUM	-84087019.83	0.00	359840681.19	275753661.35
ABSOLUTE PELL STUDENT ERROR	SUM	84087019.83	0.00	359840681.19	443927701.02
(WEIGHTED)	NUMBER	268597.35	1783352.71	745879.93	2797829.99
(WEIGHTED)	PERCENT	9.60	63.74	26.66	100.00
NUMBER		190.00	1212.00	564.00	1966.00
PERCENT		9.66	61.65	28.69	100.00

TABLE E-22
PELL INSTITUTIONAL ERROR USING A $2 TOLERANCE, 1985-86

949

		INSTITUTION ERROR			ALL
		UNDERAWARD	NO ERROR (W/IN $2)	OVERAWARD	
PELL INSTITUTIONAL ERROR	MEAN	-346.54	0.00	475.43	47.70
ABSOLUTE PELL INSTITUTIONAL ERROR	MEAN	346.54	0.00	475.43	138.69
PELL INSTITUTIONAL ERROR	SUM	-127286547	0.00	260734131.93	133447584.61
ABSOLUTE PELL INSTITUTIONAL ERROR	SUM	127286547.32	0.00	260734131.93	388020679.25
(WEIGHTED)	NUMBER	367311.62	1882097.15	548421.22	2797829.99
(WEIGHTED)	PERCENT	13.13	67.27	19.61	100.00
NUMBER		232.00	1393.00	341.00	1966.00
PERCENT		11.80	70.85	17.34	100.00

TABLE E-23
MARGINAL INCOME ERROR FOR PELL RECIPIENTS WITH BEST AFDC BENEFITS GREATER THAN $0, 1985-86

```
                                                     PELL RECIPIENTS WITH BEST AFDC > 0

VARIABLE   LABEL                                          N        MEAN      STANDARD       MINIMUM        MAXIMUM   STD ERROR          SUM
                                                                            DEVIATION         VALUE          VALUE     OF MEAN

AGI_PE     MARG. PELL ERROR FOR AGI                  309324  9.99712276    94.9468549  -130.0000000   1060.0000000  0.17071502    3092350.0
AGI_PF     MARGINAL ERROR RATE FOR AGI               309324  0.01791326     0.1326365     0.0000000      1.0000000  0.00023848       5541.0
NTAX_PE    MARG. PELL ERROR FOR NON-TAXABLE ITMS     309324 21.90871061   152.0627343     0.0000000   1566.0000000  0.27341100    6776890.0
NTAX_PF    MARGINAL ERROR RATE FOR NONTAX INC        309324  0.03472066     0.1830722     0.0000000      1.0000000  0.00032917      10740.0
```

TABLE E-24
PELL STUDENT ERROR BY SAR TRANSACTION NUMBER, 1985-86

PELL STUDENT ERROR BY TRANSACTION NUMBER

	PELL STUDENT ERROR			ALL		
	OVER					
	WEIGHTED	STUDENT PELL ERROR		WEIGHTED	STUDENT PELL ERROR	
	PCTSUM	MEAN	SUM	PCTSUM	MEAN	SUM
TRANSACTION NUMBER						
1	22.50	537.52	217711289.88	100.00	88.49	159303801.47
2	24.01	557.13	89882831.64	100.00	108.95	73200434.75
3	26.04	506.79	29709650.01	100.00	106.50	23979315.70
> 3	27.44	739.06	18463615.15	100.00	179.97	16382915.14

PELL STUDENT ERROR BY TRANSACTION NUMBER

	PELL STUDENT ERROR					
	UNDER			WITHIN $50		
	WEIGHTED	STUDENT PELL ERROR		WEIGHTED	STUDENT PELL ERROR	
	PCTSUM	MEAN	SUM	PCTSUM	MEAN	SUM
TRANSACTION NUMBER						
1	9.21	-352.26	-58407489.41	68.29	0.00	0.00
2	8.65	-267.04	-16682396.88	67.34	0.00	0.00
3	9.62	-264.46	-5730334.31	64.34	0.00	0.00
> 3	4.13	-553.92	-2080730.03	68.43	0.00	0.00

TABLE E-25
PELL COST OF ATTENDANCE ERROR BY BEST COST OF ATTENDANCE OVER $3,500, 1985-86

PELL COST OF ATTENDANCE ERROR

	PELL COA ERROR					
	UNDER			WITHIN $50		
	WEIGHTED	PELL COST OF ATTENDANCE ERROR		WEIGHTED	PELL COST OF ATTENDANCE ERROR	
	PCTSUM	MEAN	SUM	PCTSUM	MEAN	SUM
BEST COA						
<= $3500	5.17	-495.79	-40246147.03	77.12	0.00	0.00
> $3500	18.72	-1496.12	-341414951	63.96	0.00	0.00

PELL COST OF ATTENDANCE ERROR

	PELL COA ERROR					
	OVER			ALL		
	WEIGHTED	PELL COST OF ATTENDANCE ERROR		WEIGHTED	PELL COST OF ATTENDANCE ERROR	
	PCTSUM	MEAN	SUM	PCTSUM	MEAN	SUM
BEST COA						
<= $3500	17.71	1393.74	303962527.17	100.00	160.01	263716379.24
> $3500	17.37	1293.38	273980947.61	100.00	-55.41	-67534003.03

TABLE E-26
TYPE OF CAMPUS-BASED AID RECEIVED BY REPORTED DEPENDENCY STATUS, 1985-86

TYPE OF AID (GRANTS,LOANS,WORK) INCLUDED IN CB AWARD PACKAGE
BY STUDENT CHARACTERISTICS

	GRANTS	LOANS	WORK	WEIGHTED
	MEAN	MEAN	MEAN	PERCENT
STUDS DEPENDENCY STATUS				
INDEPENDENT	2249.72	1866.98	673.82	30.94
DEPENDENT	2858.25	1685.28	695.40	69.06
ALL	2650.06	1747.12	688.14	100.00

TABLE E-27
TYPE OF CAMPUS-BASED AID RECEIVED BY REPORTED YEAR IN COLLEGE, 1985-86

TYPE OF AID (GRANTS,LOANS,WORK) INCLUDED IN CB AWARD PACKAGE
BY STUDENT CHARACTERISTICS

	GRANTS	LOANS	WORK	WEIGHTED
	MEAN	MEAN	MEAN	PERCENT
STUDS YR IN CLG DURING 1985-86 APPL				
UGRAD PROF	2916.73	1149.08	800.00	0.15
1ST, FRESHMN	2565.72	1006.95	649.29	32.46
2ND, SOPH	2751.74	1023.06	701.52	26.68
3RD, JR	2810.39	1760.26	756.87	19.59
4TH, SR	3049.80	1884.98	699.55	14.62
5TH, UNDERGR	1676.91	1502.72	579.32	3.14
BEGIN GRAD/PROF	1182.91	4892.79	1247.53	1.32
CONT GRAD/PROF	1632.20	5105.70	882.81	2.09
ALL	2650.06	1747.12	688.14	100.00

TABLE E-28
CAMPUS-BASED COST OF ATTENDANCE BY LIVING ARRANGEMENTS, 1985-86

CB COST OF ATTENDANCE BY LIVING ARRANGEMENTS

	CB COST OF ATTENDANCE	WEIGHTED
	MEAN	PERCENT
HOUSING STATUS FOR BUDGET		
ON-CAMPUS	8779.52	40.78
OFF-CAMPUS	8705.35	43.96
COMMUTER	6053.10	15.08
INCARCERATED	1349.27	0.13
LIV ARRANG CHANGES	3955.00	0.06
ALL	8317.53	100.00

TABLE E-29
CAMPUS-BASED COST OF ATTENDANCE BY REPORTED DEPENDENCY STATUS, 1985-86

CB COST OF ATTENDANCE BY STUDENT CHARACTERISTICS

	CB COST OF ATTENDANCE	WEIGHTED
	MEAN	PERCENT
REPORTED DEPENDENCY STATUS		
INDEPENDENT	9189.24	36.46
DEPENDENT	7817.76	63.54
ALL	8296.45	100.00

TABLE E-30
CAMPUS-BASED COST OF ATTENDANCE BY REPORTED EFFECTIVE FAMILY INCOME, 1985-86

CB COST OF ATTENDANCE BY STUDENT CHARACTERISTICS

	CB COST OF ATTENDANCE	WEIGHTED
	MEAN	PERCENT
REPORTED EFFECTIVE FAMILY INCOME		
0 - 5000	7615.42	25.76
5001 - 10000	8231.91	20.00
10001 - 15000	7692.51	17.28
OVER 15000	8908.21	36.96
ALL	8296.45	100.00

TABLE E-31
CAMPUS-BASED COST OF ATTENDANCE BY REPORTED HOUSEHOLD SIZE, 1985-86

CB COST OF ATTENDANCE BY STUDENT CHARACTERISTICS

	CB COST OF ATTENDANCE	WEIGHTED
	MEAN	PERCENT
REPORTED HOUSEHOLD SIZE		
1	7778.08	20.76
2	8636.53	11.96
3	8343.64	17.97
4 OR 5	8382.99	34.49
6 OR MORE	8493.66	14.81
ALL	8296.45	100.00

TABLE E-32
CAMPUS-BASED COST OF ATTENDANCE BY REPORTED NUMBER IN COLLEGE, 1985-86

CB COST OF ATTENDANCE BY STUDENT CHARACTERISTICS

	CB COST OF ATTENDANCE	WEIGHTED
	MEAN	PERCENT
REPORTED NUMBER IN COLLEGE		
0	6400.22	0.38
1	8187.13	71.77
2	8703.49	21.96
3	8163.98	5.06
4 OR MORE	7122.37	0.82
ALL	8296.45	100.00

TABLE E-33

CAMPUS-BASED COST OF ATTENDANCE BY TYPE AND CONTROL OF INSTITUTION, 1985-86

CB COST OF ATTENDANCE BY TYPE AND CONTROL

	CB COST OF ATTENDANCE	WEIGHTED
	MEAN	PERCENT
TYPE AND CONTROL		
2 YEAR PUBLIC	6400.34	19.77
4 YEAR PUBLIC	6314.30	42.58
2 YEAR PRIVATE	9400.14	2.27
4 YEAR PRIVATE	11525.41	29.94
PROPRIETARY	10283.10	5.43
ALL	8311.65	100.00

TABLE E-34
CAMPUS-BASED DISBURSEMENTS BY REPORTED EFFECTIVE FAMILY INCOME, 1985-86

CAMPUS BASED AID BY STUDENT CHARACTERISTICS

	CAMPUS BASED AID	WEIGHTED
	MEAN	PERCENT
APPLICATION EFFECTIVE FAMILY INCOME		
0 - 5000	1435.69	23.94
5001 - 10000	1632.85	19.84
10001 - 15000	1391.46	17.20
OVER 15000	1533.40	39.02
ALL	1508.62	100.00

TABLE E-35
CAMPUS-BASED DISBURSEMENTS BY REPORTED HOUSEHOLD SIZE, 1985-86

CAMPUS BASED AID BY STUDENT CHARACTERISTICS

	CAMPUS BASED AID	WEIGHTED
	MEAN	PERCENT
APPLICATION HOUSEHOLD SIZE		
1	1550.38	21.38
2	1540.72	11.71
3	1380.29	17.86
4 OR 5	1469.90	34.04
6 OR MORE	1665.24	15.01
ALL	1508.62	100.00

TABLE E-36
CAMPUS-BASED DISBURSEMENTS BY REPORTED NUMBER IN COLLEGE, 1985-86

CAMPUS BASED AID BY STUDENT CHARACTERISTICS

	CAMPUS BASED AID	WEIGHTED
	MEAN	PERCENT
APPLICATION NUMBER IN COLLEGE		
1	1467.42	71.78
2	1985.69	22.15
3	1727.58	5.19
4 OR MORE	1312.00	0.88
ALL	1508.40	100.00

TABLE E-37
CAMPUS-BASED DISBURSEMENTS BY REPORTED YEAR IN COLLEGE, 1985-86

CAMPUS BASED AID BY STUDENT CHARACTERISTICS

	CAMPUS BASED AID	WEIGHTED
	MEAN	PERCENT
APPLICATION YEAR IN COLLEGE		
OTHER	1760.58	6.66
FRESHMAN	1399.20	32.50
SOPHOMORE	1419.04	26.65
JUNIOR	1625.23	19.55
SENIOR	1606.53	14.64
ALL	1508.62	100.00

TABLE E-38
REPORTED STUDENT GENDER BY REPORTED DEPENDENCY STATUS, 1985-86

```
          CR PROFILE OF RECIPIENTS

        TABLE OF S_SEX_V BY A_DSTA_A

S_SEX_V   STUDENTS GENDER   A_DSTA_A  REPORTED DEPENDENCY STATUS

FREQUENCY
 PERCENT
 ROW PCT
 COL PCT          INDEPEND DEPENDEN
                  ENT      T           TOTAL

NOT DETERMINED       4787    29345     34132
                     0.37     2.29      2.67
                    14.02    85.98
                     1.07     3.52

MALE               197488   383662    581150
                    15.43    29.97     45.40
                    33.98    66.02
                    44.13    46.08

FEMALE             245271   419616    664886
                    19.16    32.78     51.94
                    36.89    63.11
                    54.80    50.40

TOTAL              447545   832623   1280168
                    34.96    65.04    100.00
```

TABLE E-39,
REPORTED STUDENT MARITAL STATUS BY REPORTED DEPENDENCY STATUS,
1985-86

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          CR PROFILE OF RECIPIENTS

        TABLE OF A_SMAR_A BY A_DSTA_A

A_SMAR_A  STUDENT'S MARITAL STATUS   A_DSTA_A  REPORTED DEPENDENCY STATUS

FREQUENCY
 PERCENT
 ROW PCT
 COL PCT         INDEPEND DEPENDEN
                 ENT      T           TOTAL

NOT DETERMINED        742      3864      4605
                     0.06      0.30      0.36
                    16.11     83.89
                     0.17      0.46

NEVER MARRIED      318655    821268   1139923
                    24.89     64.15     89.04
                    27.95     72.05
                    71.20     98.64

MARRIED             92399      3815     96214
                     7.22      0.30      7.52
                    96.04      3.96
                    20.65      0.46

DIVORCED            11975         0     11975
                     0.94      0.00      0.94
                   100.00      0.00
                     2.68      0.00

SEPARATED           20858       860     21718
                     1.63      0.07      1.70
                    96.04      3.96
                     4.66      0.10

WIDOWED              2916      2817      5733
                     0.23      0.22      0.45
                    50.86     49.14
                     0.65      0.34

TOTAL              447545    832623   1280167
                    34.96     65.04    100.00
```

TABLE E-40
REPORTED STUDENT AGE BY REPORTED DEPENDENCY STATUS, 1985-86

```
          CB PROFILE OF RECIPIENTS

       TABLE OF A_SAGE_A BY A_DSTA_A

A_SAGE_A  STUDENT'S AGE   A_DSTA_A  REPORTED DEPENDENCY STATUS

FREQUENCY
 PERCENT
 ROW PCT
 COL PCT          INDEPEND DEPENDEN
                  ENT      T          TOTAL

LESS THAN 18         7484   153808   161292
                     0.58    12.01    12.60
                     4.64    95.36
                     1.67    18.47

18,19 OR 20         75500   526066   601565
                     5.90    41.09    46.99
                    12.55    87.45
                    16.87    63.18

OVER 20            364561   152750   517310
                    28.48    11.93    40.41
                    70.47    29.53
                    81.46    18.35

TOTAL              447545   832623  1280168
                    34.96    65.04   100.00
```

TABLE E-41
REPORTED EFFECTIVE FAMILY INCOME BY REPORTED DEPENDENCY STATUS, 1985-86

```
        CA PROFILE OF RECIPIENTS

      TABLE OF A_EFI_A BY A_DSTA_A

A_EFI_A   REPORTED EFFECTIVE FAMILY INCOME   A_DSTA_A  REPORTED DEPENDENCY STATUS

FREQUENCY
 PERCENT
 ROW PCT
 COL PCT        INDEPEND DEPENDEN
                ENT      T          TOTAL

0 - 5000          224326    66059   290385
                   17.52     5.16    22.68
                   77.25    22.75
                   50.12     7.93

5001 - 10000      128196   112366   240562
                   10.01     8.78    18.79
                   53.29    46.71
                   28.64    13.50

10001 - 15000      56924   144750   201674
                    4.45    11.31    15.75
                   28.23    71.77
                   12.72    17.38

OVER 15000         38098   509449   547547
                    2.98    39.80    42.77
                    6.96    93.04
                    8.51    61.19

TOTAL             447545   832624  1280169
                   34.96    65.04   100.00
```

TABLE E-42
LIVING ARRANGEMENTS BY REPORTED DEPENDENCY STATUS, 1985-86

```
          CB PROFILE OF RECIPIENTS

         TABLE OF A_38C BY A_DSTA_A

A_38C     CB LIVING ARRANGEMENTS   A_DSTA_A  REPORTED DEPENDENCY STATUS

FREQUENCY
 PERCENT
 ROW PCT
 COL PCT             INDEPEND DEPENDEN
                     ENT      T            TOTAL

NOT DETERMINED           4599      4851      9449
                         0.36      0.38      0.74
                        48.67     51.33
                         1.03      0.58

ON-CAMPUS               49611    475597    525169
                         3.88     37.15     41.02
                         9.45     90.55
                        11.09     57.12

OFF-CAMPUS             379876    167945    547821
                        29.67     13.12     42.79
                        69.34     30.66
                        84.88     20.17

COMMUTER                12008    184031    196039
                         0.94     14.38     15.31
                         6.13     93.87
                         2.68     22.10

INCARCERATED             1452         0      1452
                         0.11      0.00      0.11
                       100.00      0.00
                         0.32      0.00

LIV ARRANG CHANG            0       280       280
                         0.00      0.02      0.02
                         0.00    100.00
                         0.00      0.03

TOTAL                  447545    832623   1280148
                        34.96     65.04    100.00
```

TABLE E-43
REPORTED DEPENDENCY STATUS BY BEST TOTAL EARNINGS, 1985-86

```
      CR: REPORTED DEPENDENCY STATUS BY TOTAL EARNINGS
-----------------------------------------------------------
|                               |   TOTAL    |            |
|                               |  EARNINGS  |  WEIGHTED  |
|                               |------------+------------|
|                               |    MEAN    |    PCTN    |
|-------------------------------+------------+------------|
|STUDS DEPENDENCY STATUS        |            |            |
|-------------------------------|            |            |
|INDEPENDENT                    |    2821.39 |      36.51 |
|-------------------------------+------------+------------|
|DEPENDENT                      |    1384.07 |      63.49 |
-----------------------------------------------------------
```

TABLE E-44
MARGINAL INCOME ERROR FOR CAMPUS-BASED RECIPIENTS WITH BEST AFDC BENEFITS GREATER THAN $0, 1985-86

CB RECIPIENTS WITH BEST AFDC > 0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM
AGI_NPE	MARG. CB NEED ERROR FOR AGI	84944	4.47298220	38.3342250	0	333.000000	0.13152844	279953.000
AGI_CF	MARGINAL ERROR RATE FOR AGI	84944	0.01343238	0.1151176	0	1.000000	0.00039496	1141.000
NTAX_NPE	MARG. CB PMT ERROR FOR NON-TAXABLE ITEMS	84944	0.00000000	0.0000000	0	0.000000	0.00000000	0.000
NTAX_CF	MARGINAL ERROR RATE FOR NONTAX INC	84944	0.00000000	0.0000000	0	0.000000	0.00000000	0.000

TABLE E-45
TABLE OF AID RECEIVED BY REPORTED DEPENDENCY STATUS, 1985-86

TYPES OF AID (GRANTS,LOANS,WORK) IN THE AWARD PACKAGE FOR GSL RECIPIENTS BY STUDENT CHARACTERISTICS

	GRANTS	LOANS	WORK	WEIGHTED
	MEAN	MEAN	MEAN	PERCENT
STUDS DEPENDENCY STATUS				
INDEPENDENT	1009.18	3384.14	151.27	35.30
DEPENDENT	1626.49	2495.43	367.35	64.70
ALL	1398.18	2824.12	287.43	100.00

TABLE E-46
TYPE OF AID RECEIVED BY REPORTED YEAR IN COLLEGE, 1985-86

TYPES OF AID (GRANTS,LOANS,WORK) IN THE AWARD PACKAGE FOR GSL RECIPIENTS BY STUDENT CHARACTERISTICS

	GRANTS	LOANS	WORK	WEIGHTED
	MEAN	MEAN	MEAN	PERCENT
STUDS YR IN CLG DURING 1985-86 APPL				
UGRAD PROF	2379.30	3686.31	99.11	0.39
1ST, FRESHMN	1408.75	2462.92	349.68	31.37
2ND, SOPH	1311.09	2318.93	205.61	24.98
3RD, JR	1756.87	2550.92	335.98	19.67
4TH, SR	2307.09	2553.80	384.89	13.47
5TH, UNDERGR	1056.13	2981.96	135.53	4.33
BEGIN GRAD/PROF	406.38	4659.08	181.48	2.26
CONT GRAD/PROF	493.15	5907.17	173.93	3.58
ALL	1398.18	2824.12	287.43	100.00

TABLE E-47
GSL COST OF ATTENDANCE BY LIVING ARRANGEMENTS FOR ALL GSL RECIPIENTS, 1985-86

GSL COST OF ATTENDANCE BY LIVING ARRANGEMENTS

	GSL COST OF ATTENDANCE	WEIGHTED
	MEAN	PERCENT
GSL HOUSING STATUS FIRST CERT		
ON-CAMPUS	7941.67	34.15
OFF-CAMPUS	8127.04	53.32
COMMUTER	6159.26	12.53
ALL	7810.53	100.00

TABLE E-48
GSL COST OF ATTENDANCE BY REPORTED DEPENDENCY STATUS FOR CERTIFIED STUDENTS, 1985-86

GSL COST OF ATTENDANCE BY STUDENT CHARACTERISTICS

	GSL COST OF ATTENDANCE	WEIGHTED
	MEAN	PERCENT
REPORTED DEPENDENCY STATUS		
INDEPENDENT	9054.88	40.19
DEPENDENT	7384.28	59.81
ALL	8039.19	100.00

TABLE E-49

GSL COST OF ATTENDANCE BY REPORTED EFFECTIVE FAMILY INCOME, 1985-86

GSL COST OF ATTENDANCE BY STUDENT CHARACTERISTICS

	GSL COST OF ATTENDANCE	WEIGHTED
	MEAN	PERCENT
REPORTED EFFECTIVE FAMILY INCOME		
0 - 5000	7272.19	25.35
5001 - 10000	8076.46	18.74
10001 - 15000	8066.01	16.09
OVER 15000	8307.71	39.82
ALL	8039.19	100.00

TABLE E-50
GSL COST OF ATTENDANCE BY REPORTED HOUSEHOLD SIZE, 1985-86

GSL COST OF ATTENDANCE BY STUDENT CHARACTERISTICS

	GSL COST OF ATTENDANCE	WEIGHTED
	MEAN	PERCENT
REPORTED HOUSEHOLD SIZE		
1	7875.68	21.09
2	7839.14	12.12
3	8286.41	18.30
4 OR 5	8137.34	34.97
6 OR MORE	7765.72	13.52
ALL	8039.19	100.00

TABLE E-51
GSL COST OF ATTENDANCE BY REPORTED NUMBER IN COLLEGE, 1985-86

GSL COST OF ATTENDANCE BY STUDENT CHARACTERISTICS

	GSL COST OF ATTENDANCE	WEIGHTED
	MEAN	PERCENT
REPORTED NUMBER IN COLLEGE		
1	8193.00	72.14
2	8730.74	21.98
3	8163.98	5.05
4 OR MORE	7122.37	0.82
ALL	8311.09	100.00

TABLE E-52
GSL COST OF ATTENDANCE BY TYPE AND CONTROL OF INSTITUTION, 1985-86

GSL COST OF ATTENDANCE BY TYPE AND CONTROL

	GSL COST OF ATTENDANCE	WEIGHTED
	MEAN	PERCENT
TYPE AND CONTROL		
2 YEAR PUBLIC	5825.64	14.30
4 YEAR PUBLIC	6188.48	39.40
2 YEAR PRIVATE	8275.64	2.90
4 YEAR PRIVATE	11137.92	31.06
PROPRIETARY	8304.03	12.34
ALL	8045.03	100.00

TABLE E-53
GSL CERTIFICATIONS BY REPORTED EFFECTIVE FAMILY INCOME, 1985-86

GSL CERTIFICATIONS BY STUDENT CHARACTERISTICS

	GSL CERTIFICATIONS	WEIGHTED
	MEAN	PERCENT
APPLICATION EFFECTIVE FAMILY INCOME		
0 - 5000	2704.99	21.41
5001 - 10000	2641.03	17.05
10001 - 15000	3059.05	15.96
OVER 15000	2416.73	45.59
ALL	2578.12	100.00

TABLE E-54
GSL CERTIFICATIONS BY REPORTED HOUSEHOLD SIZE, 1985-86

GSL CERTIFICATIONS BY STUDENT CHARACTERISTICS

	GSL CERTIFICATIONS	WEIGHTED
	MEAN	PERCENT
APPLICATION HOUSEHOLD SIZE		
1	3064.76	20.81
2	2834.99	10.80
3	2423.50	17.94
4 OR 5	2423.78	35.68
6 OR MORE	2262.97	14.77
ALL	2578.12	100.00

TABLE E-55
GSL CERTIFICATIONS BY REPORTED NUMBER IN COLLEGE, 1985-86

GSL CERTIFICATIONS BY STUDENT CHARACTERISTICS

	GSL CERTIFICATIONS	WEIGHTED
	MEAN	PERCENT
APPLICATION NUMBER IN COLLEGE		
1	2602.03	67.99
2	2550.07	25.27
3	2470.74	5.75
4 OR MORE	1868.37	0.99
ALL	2578.12	100.00

TABLE E-56
GSL CERTIFICATIONS BY REPORTED YEAR IN COLLEGE, 1985-86

GSL CERTIFICATIONS BY STUDENT CHARACTERISTICS

	GSL CERTIFICATIONS	WEIGHTED
	MEAN	PERCENT
APPLICATION YEAR IN COLLEGE		
OTHER	4025.85	10.41
FRESHMAN	2297.92	31.52
SOPHOMORE	2200.04	24.78
JUNIOR	2293.95	19.72
SENIOR	2282.51	13.58
ALL	2578.12	100.00

TABLE E-57
REPORTED STUDENT GENDER BY REPORTED DEPENDENCY STATUS, 1985-86

```
          GSL PROFILE OF RECIPIENTS

        TABLE OF S_SEX_V BY A_DSTA_A

   S_SEX_V   STUDENTS GENDER   A_DSTA_A  REPORTED DEPENDENCY STATUS

   FREQUENCY
    PERCENT
    ROW PCT
    COL PCT          INDEPEND DEPENDEN
                     ENT      T          TOTAL

   NOT DETERMINED       3537*  115874*  119411 *
                        0.10     3.31     3.41
                        2.96    97.04
                        0.25     5.59

   MALE               678786*  989544*  1668330*
                       19.38    28.26    47.64
                       40.69    59.31
                       47.50    47.74

   FEMALE             746733*  967564* 1714297*
                       21.32    27.63    48.95
                       43.56    56.44
                       52.25    46.68

   TOTAL             1429056* 2072982* 3502038*
                       40.81    59.19   100.00
```

* Due to a revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

TABLE E-58
REPORTED STUDENT MARITAL STATUS BY REPORTED DEPENDENCY STATUS, 1985-86

```
        GSL PROFILE OF RECIPIENTS

      TABLE OF A_SMAR_A BY A_DSTA_A

A_SMAR_A  STUDENT'S MARITAL STATUS   A_DSTA_A  REPORTED DEPENDENCY STATUS

FREQUENCY
 PERCENT
 ROW PCT
 COL PCT        INDEPEND DEPENDEN
                ENT      T          TOTAL

NOT DETERMINED    74113 *  30914*  105027*
                   2.12     0.88     3.00
                  70.57    29.43
                   5.19     1.49

NEVER MARRIED    820131 * 1996346* 2816477*
                  23.42    57.01    80.42
                  29.12    70.88
                  57.39    96.30

MARRIED          443320 *  43042*  486362*
                  12.66     1.23    13.89
                  91.15     8.85
                  31.02     2.08

DIVORCED           9295*       0     9295 *
                   0.26     0.00     0.26
                 100.00     0.00
                   0.65     0.00

SEPARATED         81379*    2673 *  84053 *
                   2.32     0.08     2.40
                  96.82     3.18
                   5.69     0.13

WIDOWED             858 *      0      858*
                   0.02     0.00     0.02
                 100.00     0.00
                   0.06     0.00

TOTAL           1429056 * 2072975 * 3502032*
                  40.81    59.19   100.00
```

* Due to a revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

TABLE E-59
REPORTED STUDENT AGE BY REPORTED DEPENDENCY STATUS, 1985-86

```
         GSL PROFILE OF RECIPIENTS

       TABLE OF A_SAGE_A BY A_DSTA_A

A_SAGE_A   STUDENT'S AGE    A_DSTA_A   REPORTED DEPENDENCY STATUS
FREQUENCY
 PERCENT
 ROW PCT
 COL PCT          INDEPEND DEPENDEN
                  ENT      T           TOTAL

LESS THAN 18       14398*   284005*   298403 *
                    0.41      8.11      8.52
                    4.82     95.17
                    1.01     13.70

18,19 OR 20       156378*  1324397*  1480775 *
                    4.47     37.82     42.28
                   10.56     89.44
                   10.94     63.89

OVER 20          1258277*   464578*  1722855 *
                   35.93     13.27     49.20
                   73.03     26.97
                   88.05     22.41

TOTAL            1429053*  2072980*  3502033 *
                   40.81     59.19    100.00
```

* Due to a revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

TABLE E-60
REPORTED EFFECTIVE FAMILY INCOME BY REPORTED DEPENDENCY STATUS, 1985-86

```
      GSL PROFILE OF RECIPIENTS

     TABLE OF A_EFI_A BY A_DSTA_A

A_EFI_A   REPORTED EFFECTIVE FAMILY INCOME   A_DSTA_A  REPORTED DEPENDENCY STATUS

FREQUENCY
 PERCENT
 ROW PCT
 COL PCT        INDEPEND DEPENDEN
                ENT      T           TOTAL

0 - 5000         540342*  174010*  714352 *
                  15.43     4.97    20.40
                  75.64    24.36
                  37.81     8.39

5001 - 10000     315674*  160794*  476468 *
                   9.01     4.59    13.61
                  66.25    33.75
                  22.09     7.76

10001 - 15000    297931 * 182076 * 480007 *
                   8.51     5.20    13.71
                  62.07    37.93
                  20.85     8.78

OVER 15000       275109 * 1556097* 1831206 *
                   7.86    44.43    52.29
                  15.02    84.98
                  19.25    75.07

TOTAL            1429056 * 2072978 * 3502034 *
                  40.81    59.19   100.00
```

* Due to a revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

TABLE E-61
LIVING ARRANGEMENTS BY REPORTED DEPENDENCY STATUS, 1985-86

```
          GSL PROFILE OF RECIPIENTS

          TABLE OF A_6AC BY A_DSTA_A

A_6AC      GSL LIVING ARRANGEMENTS   A_DSTA_A  REPORTED DEPENDENCY STATUS

FREQUENCY
 PERCENT
 ROW PCT
 COL PCT          INDEPEND DEPENDEN
                  ENT      T          TOTAL

NOT DETERMINED     243293*  422303 * 665597 *
                     6.95    12.06    19.01
                    36.55    63.45
                    17.02    20.37

ON-CAMPUS          123663*  817842 * 941505 *
                     3.53    23.35    26.88
                    13.13    86.87
                     8.69    39.45

OFF-CAMPUS        1019734*  508603 *1528337 *
                    29.12    14.52    43.64
                    66.72    33.28
                    71.36    24.53

COMMUTER            42376*  324234 * 366610 *
                     1.21     9.26    10.47
                    11.56    88.44
                     2.97    15.64

TOTAL             1429056* 2072983* 3502039 *
                    40.81    59.19   100.00
```

* Due to a revision in the estimate of total GSL loan volume, these figures should be reduced by approximately 10 percent.

TABLE E-62
REPORTED DEPENDENCY STATUS BY BEST TOTAL EARNINGS, 1985-86

G9L: REPORTED DEPENDENCY STATUS BY TOTAL EARNINGS

	TOTAL EARNINGS	WEIGHTED
	MEAN	PCTN
STUDS DEPENDENCY STATUS		
INDEPENDENT	5105.76	40.71
DEPENDENT	1981.60	59.29

TABLE E-63
INSTITUTION DOCUMENTATION VS. CERTIFIED TAX FORMS, 1985-86

	DOCUMENTATION VS CERTIFIED TAX FORM					
	TAX FORM LOWER		WITHIN TOLERANCE *		TAX FORM HIGHER	
	WEIGHTED PERCENT	MEAN DIFFERENCE	WEIGHTED PERCENT	MEAN DIFFERENCE	WEIGHTED PERCENT	MEAN DIFFERENCE
ADJUSTED GROSS INCOME	2.1	-21589	95.5	0	2.4	6266
INDEPENDENT	2.2	-2439	96.1	0	1.6	3399
DEPENDENT	2.0	-32910	95.2	0	2.8	7132
FATHER/STUDENT INCOME	12.2	-7029	79.6	0	8.2	8039
INDEPENDENT	8.4	-7666	87.6	0	4.0	3081
DEPENDENT	15.6	-6728	72.7	0	11.8	9929
MOTHER/SPOUSE INCOME	5.7	-4124	88.9	0	5.4	7948
INDEPENDENT	7.8	-1912	75.7	0	16.5	12782
DEPENDENT	5.3	-4711	91.3	0	3.5	3806
DEPENDENT ADJUSTED GROSS INCOME	0.9	-999	95.9	0	3.2	706
MARRIED COUPLE DEDUCTION	1.0	-948	95.5	0	3.5	198
INDEPENDENT	.	.	100.0	0	.	.
DEPENDENT	1.3	-948	94.4	0	4.3	198
U.S.TAXES PAID	2.4	-750	86.4	0	11.2	888
INDEPENDENT	1.8	-333	88.2	0	9.9	798
DEPENDENT	2.8	-892	83.4	0	13.8	907
NUMBER OF EXEMPTIONS	0.9	-2	98.0	0	1.0	2
INDEPENDENT	1.7	-2	97.2	0	1.1	2
DEPENDENT	0.5	-2	98.5	0	1.0	2
INDIVIDUAL RETIREMENT ACCOUNT	2.5	-1744	97.5	0	.	.
INDEPENDENT	35.8	-2483	64.2	0	.	.
DEPENDENT	1.2	-899	98.8	0	.	.
UNEMPLOYMENT	.	.	100.0	0	.	.
INDEPENDENT	.	.	100.0	0	.	.
DEPENDENT	.	.	100.0	0	.	.
	IRS:NO, APPL:YES		IRS SAME AS APPL		IRS:YES, APPL:NO	
CLAIMED IN 1984 (DEP. ONLY)	0.9	N/A	94.8	N/A	4.3	N/A

---

* A $50 tolerance was used, except for the number of exemptions and if a dependent student was claimed as an exemption in 1984.

TABLE E-64
REPORTED TAX ITEM VALUES BY CERTIFIED TAX FORM VALUES, 1985-86

SUMMARY OF REPORTED TAX ITEMS COMPARED TO VALUES FROM CERTIFIED TAX FORMS

	REPORTED VALUE VS CERTIFIED TAX FORM					
	TAX FORM LOWER		WITHIN TOLERANCE		TAX FORM HIGHER	
	WEIGHTED PERCENT	MEAN DIFFERENCE	WEIGHTED PERCENT	MEAN DIFFERENCE	WEIGHTED PERCENT	MEAN DIFFERENCE
ADJUSTED GROSS INCOME	4.0	-6795	88.0	0	8.0	8200
INDEPENDENT	2.5	-1869	91.1	0	6.4	6424
DEPENDENT	4.9	-6328	86.1	0	9.0	9671
FATHER/STUDENT INCOME	8.5	-6706	79.9	0	11.6	5412
INDEPENDENT	7.8	-3453	82.9	0	9.3	3931
DEPENDENT	8.9	-6488	78.1	0	13.1	6294
MOTHER/SPOUSE INCOME	5.4	-2632	88.8	0	5.8	5491
INDEPENDENT	2.8	-2357	93.6	0	3.6	9981
DEPENDENT	7.0	-2698	85.9	0	7.1	6049
DEPENDENT ADJUSTED GROSS INCOME	1.1	-5816	86.1	0	12.8	2143
U.S.TAXES PAID	6.4	-723	81.8	0	11.8	890
INDEPENDENT	3.4	-367	88.8	0	7.8	778
DEPENDENT	8.2	-815	77.5	0	14.3	927
NUMBER OF EXEMPTIONS	1.4	-2	95.6	0	3.0	2
INDEPENDENT	0.9	-1	95.9	0	3.3	2
DEPENDENT	1.7	-2	95.4	0	2.9	2
	IRS:NC, REPT:YES		IRS SAME AS REPT		IRS:YES, REPT:NC	
CLAIMED IN 1984 (DEP. ONLY)	1.1	N/A	95.1	N/A	3.7	N/A

TABLE E-65

RESIDUAL ERROR ASSOCIATED WITH PELL VALIDATION ITEMS BY DEPENDENCY STATUS AND VALIDATION CATEGORY, 1985-86

SAS

		DIR. OF ERROR											
		UNDERAWARD			NO ERROR			OVERAWARD					
		ERROR ASSOCIATED WITH VAL. ITEMS		WEIGHTED	ERROR ASSOCIATED WITH VAL. ITEMS		WEIGHTED	ERROR ASSOCIATED WITH VAL. ITEMS		WEIGHTED	ERROR ASSOCIATED WITH VAL. ITEMS		WEIGHTED
		MEAN	SUM	%	MEAN	SUM	%	MEAN	SUM	%	MEAN	SUM	%
DEPENDENCY STATUS	VAL_STA												
INDEP	NOT VALIDATED	-333	-8290039	9.8	0	0	79.8	521	13987219	10.4	22	5497190	9.8
	PELL VALIDATED	-183	-2420513	3.0	0	0	87.4	508	21902222	9.7	44	19481709	16.6
	INST. VALIDATED	-322	-8052966	5.0	0	0	81.3	309	21040157	13.7	26	12987191	18.5
DEP	NOT VALIDATED	-266	-14499958	18.4	0	0	65.2	402	18891705	16.4	14	4491747	10.4
	PELL VALIDATED	-290	-19395099	9.8	0	0	69.6	431	70890598	20.6	64	51099099	29.5
	INST. VALIDATED	-234	-8313179	8.7	0	0	73.5	481	35136794	17.8	66	26823619	15.2
DEPENDENCY STATUS													
INDEP	ALL	-297	-18763518	5.3	0	0	83.2	412	56929598	11.5	32	37926080	44.9
DEP	ALL	-292	-42208233	11.2	0	0	69.8	439	124919097	18.9	55	82010868	55.1
	VAL_STA												
ALL	NOT VALIDATED	-287	-22789997	14.6	0	0	72.0	446	32878923	13.4	18	9988927	20.2
	PELL VALIDATED	-240	-21815612	7.3	0	0	76.0	447	92792820	16.7	57	70577298	46.1
	INST. VALIDATED	-270	-16366141	6.7	0	0	77.8	398	56176951	15.6	44	39810810	33.7
ALL	ALL	-264	-60971750	8.6	0	0	75.8	431	181848695	15.6	45	119936948	100.0

TABLE E-66
INSTITUTIONAL PACKAGING CONSTRAINTS AND EXCEPTIONS, 1985-86

CONSTRAINT	PERCENT OF RECIPIENTS SUBJECT TO CONSTRAINT	PERCENT WHERE CONSTRAINT IS VIOLATED
Maximum EFC		
SEOG	17.2	47.9
CWS	6.4	36.3
NDSL	12.6	27.8
Maximum Dependent AGI		
SEOG	6.9	37.0
CWS	4.1	75.4
NDSL	6.3	64.1
Maximum Independent AGI		
SEOG	4.8	33.3
CWS	2.5	29.5
NSDL	3.9	34.9
Minimum Award		
SEOG	72.4	4.1
CWS	56.7	9.6
NDSL	67.6	3.0
Maximum Award		
SEOE	74.3	5.6
CWS	64.6	8.5
NDSL	75.0	8.0
Limit Total Award to x $'s		
Undergraduates	16.9	32.9
Graduates	2.2	0
Limit Awards to Students with at least x $'s of Need		
Undergraduates	31.6	6.9
Graduates	48.1	0
Always Leave Award to x % of Unmet Need		
Undergraduates	18.2	26.3
Graduates	19.9	0
Limit Total Award to x % of Need		
Undergraduates	18.6	69.4
Graduates	4.3	0

TABLE E-67
INSTITUTIONAL ADJUSTMENTS TO INDIVIDUAL[1] DATA ELEMENTS IN THE CAMPUS-BASED PROGRAMS, 1985-86

DATA ELEMENT[2]	PERCENT WITH ADJUSTMENTS	PERCENT WHERE ADJUSTMENT=BEST VALUE[3]
Household Size	1.2	45.0
Independent	1.3	63.0
Dependent	1.1	34.5
Number in College	0.9	79.3
Independent	1.0	100.0
Dependent	0.9	68.6
Adjusted Gross Income	5.8	71.3
Independent	4.0	72.5
Dependent	6.7	71.0
U.S. Taxes Paid	5.7	69.5
Independent	3.1	93.0
Dependent	7.1	64.5
Father's/Student's Portion	2.2	65.8
Indendent	2.5	85.7
Dependent	2.1	54.3
Mother's/Spouse's Portion	0.9	83.4
Independent	0.4	51.2
Dependent	1.2	88.0
AFDC	0.9	67.9
Independent	1.3	96.3
Dependent	0.7	41.1
Other Non-Taxable Income	3.5	34.1
Independent	1.0	0.0
Dependent	4.7	37.7
Student's Expected Income	3.1	0.9
Independent	2.0	0.0
Dependent	3.7	1.2
Home Value	3.4	19.2
Independent	0.0	0.0
Dependent	5.1	19.2
Medical Expenses	1.8	36.4
Independent	0.3	29.3
Dependent	2.5	36.9
Dependent's Income	1.4	67.2

---

[1] Total EFC was also adjusted in 12.1 percent of cases

[2] Data elements where at least 30 cases were adjusted

[3] Best values calculated prior to institutional override

TABLE E-68
AWARDS DECLARED IN THE STUDENT INTERVIEWS VS. ACTUAL TITLE IV AWARDS, 1985-86

AWARDS DECLARED IN THE STUDENT INTERVIEW VS.
ACTUAL TITLE IV AWARDS

	Recipients							Non-Recipients			
	No Funds Declared	Understated Award		Stated Award Within $50	Overstated Award			No Funds Declared	Claimed to be a Recipient		
Title IV Program	Percent	Percent	Mean Difference	Percent	Percent	Mean Difference	Max. Declared Award	Percent	Percent	Award Mean	Declared Max.
PELL	12.3	30.4	512	39.3	18.1	618	11,000	93.4	6.6	1,275	5,000
SEOG	44.4	13.8	348	35.0	6.8	472	3,000	97.2	2.8	1,003	3,900
NDSL	23.0	17.8	471	47.7	11.5	808	5,000	93.4	6.6	1,778	5,000
CW-S	28.8	21.7	649	38.9	10.6	450	4,500	95.5	4.5	795	5,120
GSL	21.7	23.9	720	47.8	6.6	2,215	25,000	86.9	13.1	2,006	10,000

TABLE E-69
STUDENT WITHDRAWALS AND DROPOUTS FOR ALL TITLE IV PROGRAMS, 1985-86

```
                                      SAS

                          DID STUD WITHDRAW OR REDUCE LOAD?
A_5A                       FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                       .        230         .         .            .
NO ANSWER                         5         .         .            .
RDCD CRSLD,2TRMS                  6         6     0.268        0.268
W/DREW 1ST DAY                   23        29     1.029        1.297
W/DRW IN REFUND                  21        50     0.939        2.236
W/DR AFT RFND PD                 42        92     1.878        4.114
W/DREW TERM END                 133       225     5.948       10.063
REDUCED COURSES                 107       332     4.785       14.848
STILL ENROLLED                 1893      2225    84.660       99.508
GRADUATED                        11      2236     0.492      100.000
```

TABLE E-70
EXEMPTIONS CLAIMED FOR SELECTIVE SERVICE, 1985-86

```
                     WHAT XMPT CONDITION CLAIMED
A_13                 FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                 .        913          .         .            .
CANT DETERMINE            1            .         .            .
NO ANSWER                 5            .         .            .
FEMALE                 1314         1314    84.665       84.665
ON ACTIVE DUTY            4         1318     0.258       84.923
NOT 18 YRS OLD           54         1372     3.479       88.402
BORN BEFORE 60          179         1551    11.534       99.936
RESIDENCY                 1         1552     0.064      100.000
```

TABLE E-71
DEPENDENCY STATUS ERRORS IN THE PELL PROGRAM, 1985-86

```
                 PELL

      TABLE OF C_DSTA_V BY DSTA

C_DSTA_V  DEPENDENCY STATUS   DSTA      BEST DEPENDENCY STATUS

FREQUENCY|
 PERCENT |
 ROW PCT |
 COL PCT |INDEP   |DEP     |  TOTAL
---------+--------+--------+
INDEP    |1203179 |  80729 |1283908
         |  43.01 |   2.89 |  45.89
         |  93.71 |   6.29 |
         |  98.51 |   5.12 |
---------+--------+--------+
DEP      |  18153 |1495517 |1513670
         |   0.65 |  53.46 |  54.11
         |   1.20 |  98.80 |
         |   1.49 |  94.88 |
---------+--------+--------+
TOTAL     1221332  1576246  2797578
            43.66    56.34   100.00
```

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TABLE E-72
DEPENDENCY STATUS ERRORS IN THE CAMPUS-BASED PROGRAMS, 1985-86

```
                C=B

     TABLE OF A_DSTA_A BY DSTA_C

A_DSTA_A  STUDS DEPENDENCY STATUS   DSTA_C    BEST CR DEPENDENCY STATUS

FREQUENCY|
 PERCENT |
 ROW PCT |
 COL PCT |INDEP   |DEP     |  TOTAL
---------+--------+--------+
INDEP    | 408878 |  38651 | 447529
         |  31.94 |   3.02 |  34.96
         |  91.36 |   8.64 |
         |  99.08 |   4.46 |
---------+--------+--------+
DEP      |   3805 | 828792 | 832597
         |   0.30 |  64.74 |  65.04
         |   0.46 |  99.54 |
         |   0.92 |  95.54 |
---------+--------+--------+
TOTAL      412683   867443  1280126
            32.24    67.76   100.00
```

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TABLE E-73
DEPENDENCY STATUS ERRORS IN THE GSL PROGRAM, 1985-86

```
                GSL

     TABLE OF A_DSTA_A BY DSTA_C

A_DSTA_A  STUDS DEPENDENCY STATUS   DSTA_C    BEST CR DEPENDENCY STATUS

FREQUENCY|
 PERCENT |
 ROW PCT |
 COL PCT |INDEP   |DEP     |  TOTAL
---------+--------+--------+
INDEP    |1512485 |  93075 |1605560
         |  38.44 |   2.37 |  40.81
         |  94.20 |   5.80 |
         |  98.20 |   3.89 |
---------+--------+--------+
DEP      |  27663 |2301316 |2328979
         |   0.70 |  58.49 |  59.19
         |   1.19 |  98.81 |
         |   1.80 |  96.11 |
---------+--------+--------+
TOTAL     1540148  2394391  3934538
            39.14    60.86   100.00
```

TABLE E-74
VALIDATION PROCEDURE STUDENT MARGINALS, 1985-86

SELECTED VALIDATION TABLES

RETURNING STUDENT TAX FORM POLICY

Q_9A	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	43	.	.	.
NO ANSWER	15	.	.	.
STUD FOR ALL	45	45	1.867	1.867
STUD&PAR ALL	995	1040	41.286	43.154
STUD-PAR SOME	1261	2301	52.324	95.477
NEVER REQD	109	2410	4.523	100.000

FIRST-TIME TAX FORM POLICY

Q_9B	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	37	.	.	.
NO ANSWER	15	.	.	.
STUD FOR ALL	53	53	2.194	2.194
STUD&PAR ALL	927	980	38.369	40.563
STUD-PAR SOME	1288	2268	53.311	93.874
NEVER REQD	148	2416	6.126	100.000

SELECTION FOR NON-PELL VALIDATION

Q_11A	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	20	.	.	.
DO NOT VALIDATE	453	453	18.505	18.505
VALIDATE ALL	842	1295	34.395	52.900
RANDOM SAMPLE	41	1336	1.675	54.575
SUSPICIOUS	379	1715	15.482	70.057
SELECTION CRIT	216	1931	8.824	78.881
CONFLICTING DOC	199	2130	8.129	87.010
SEL STT ON PROG	8	2138	0.327	87.337
VAL ALL BUT GSL	23	2161	0.940	88.276
VAL ALL APPLS	15	2176	0.613	88.889
SAMP & SUSP	8	2184	0.327	89.216
SUS CIRC	99	2283	4.044	93.260
SUSP & CONFLICT	165	2448	6.740	100.000

WHO IS RESPONSIBLE FOR PELL VALIDATION?

Q_12A	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	76	.	.	.
DON'T KNOW	7	.	.	.
NO ANSWER	3	.	.	.
PROF STAFF	1902	1902	79.849	79.849
CLERC STAFF	412	2314	17.296	97.145
STUDENT WORKERS	34	2348	1.427	98.573
PARA PRO/HI CLER	6	2354	0.252	98.825
PROF & CLER	7	2361	0.294	99.118
OTHER	21	2382	0.882	100.000

TABLE E-74
VALIDATION PROCEDURE STUDENT MARGINALS, 1985-86 (Continued)

```
                          SELECTED VALIDATION TABLES

                     WHO IS RESPONSIBLE FOR NON-PELL VALID?
Q_12A                 FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                   .       386        .          .           .
DONT KNOW                    7        .          .           .
NO ANSWER                   15        .          .           .
PROF STAFF                1590      1590      77.184      77.184
CLERIC STAFF               369      1959      17.913      95.097
STUDENT WORKERS             34      1993       1.650      96.748
PARA PROF/MI CLER           22      2015       1.068      97.816
PROF & CLER                  7      2022       0.340      98.155
OTHER                       38      2060       1.845     100.000

                     TIME PER STUDENT FOR PELL VALIDATION
 Q_13A                FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                 .          48        .          .           .
 DONT KNOW                  32        .          .           .
 < 10 MINUTES              238       238       9.966       9.966
 11-20 MINUTES             919      1157      38.484      48.451
 21-30 MINUTES             564      1721      23.618      72.069
 31-40 MINUTES             222      1943       9.296      81.365
 41-50 MINUTES              81      2024       3.392      84.757
 51-60 MINUTES             104      2128       4.355      89.112
 > 60 MINUTES              260      2388      10.888     100.000

                   TIME PER STUDENT FOR NON-PELL VALIDATION
 Q_13B                FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                 .         365        .          .           .
 DONT KNOW                  32        .          .           .
 NO ANSWER                  15        .          .           .
 < 10 MINUTES              328       328      15.953      15.953
 11-20 MINUTES             878      1206      42.704      58.658
 21-30 MINUTES             443      1649      21.547      80.204
 31-40 MINUTES             210      1859      10.214      90.418
 41-50 MINUTES              46      1905       2.237      92.656
 51-60 MINUTES              42      1947       2.043      94.698
 > 60 MINUTES              109      2056       5.302     100.000

                        MORE OR LESS TIME FOR PELL?
Q_14A                 FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                  .         48        .          .           .
DONT KNOW                   83        .          .           .
MORE TIME                 1806      1806      77.279      77.279
ABOUT THE SAME             445      2251      19.042      96.320
LESS TIME                   86      2337       3.680     100.000
```

TABLE E-74
VALIDATION PROCEDURE STUDENT MARGINALS, 1985-86 (Continued)

```
                       SELECTED VALIDATION TABLES

                   MORE OR LESS TIME FOR NON-PELL?
Q_14B              FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                .     369         .          .           .
DONT KNOW              86         .          .           .
NO ANSWER              15         .          .           .
MORE TIME            1163      1163     58.208      58.208
ABOUT THE SAME        784      1947     39.239      97.447
LESS TIME              51      1998      2.553     100.000

                 AVERAGE CONTACTS FOR PELL VALIDATION
   Q_15A           FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                .      98         .          .           .
   DONT KNOW            5         .          .           .
                1     171       171      7.081       7.081
                2     767       938     31.760      38.841
                3     868      1806     35.942      74.783
                4     333      2139     13.789      88.571
   MORE THAN    4     276      2415     11.429     100.000

               AVERAGE CONTACTS FOR NON-PELL VALIDATION
   Q_15B           FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                .     380         .          .           .
   DONT KNOW           25         .          .           .
   NO ANSWER           15         .          .           .
                1     308       308     15.039      15.039
                2     875      1183     42.725      57.764
                3     569      1752     27.783      85.547
                4     171      1923      8.350      93.896
   MORE THAN    4     125      2048      6.104     100.000

                   CONTACTS UP OR DOWN FOR PELL?
     Q_16A         FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                .      98         .          .           .
     DONT KNOW         92         .          .           .
     INCREASE        1466      1466     62.973      62.973
     NO CHANGE        794      2260     34.107      97.079
     DECREASE          68      2328      2.921     100.000

                  CONTACTS UP OR DOWN FOR NON-PELL?
     Q_16B         FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                .     369         .          .           .
     DONT KNOW         84         .          .           .
     NO ANSWER         15         .          .           .
     INCREASE         869       869     43.450      43.450
     NO CHANGE       1080      1949     54.000      97.450
     DECREASE          51      2000      2.550     100.000
```

TABLE E-74
VALIDATION PROCEDURE STUDENT MARGINALS, 1985-86 (Continued)

```
                       SELECTED VALIDATION TABLES

                   % OF CB APPL WITH ADJUSTED NEED
Q_33           FREQUENCY  CUM FREQ    PERCENT   CUM PERCENT

         .          113          .          .             .
DONT KNOW            86          .          .             .
NO ANSWER            27          .          .             .
0                   151        151      6.741         6.741
1% - 9%             747        898     33.348        40.089
10% - 19%           401       1299     17.902        57.991
20% - 29%           229       1528     10.223        68.214
30% - 39%           207       1735      9.241        77.455
40% - 49%           107       1842      4.777        82.232
50% - 59%           154       1996      6.875        89.107
60% - 69%            51       2047      2.277        91.384
70% - 79%            74       2121      3.304        94.687
80% - 89%            57       2178      2.545        97.232
90% - 99%            35       2213      1.563        98.795
100%                 27       2240      1.205       100.000

                   DECIMAL HOURS OBTAINING DOCUMENTS
Q_10                FREQUENCY  CUM FREQ    PERCENT   CUM PERCENT

                  .     1594          .          .             .
1/2 HOUR OR LESS         258        258     29.519        29.519
1/2 HR TO 1 HR           179        437     20.481        50.000
1 TO 2 HOURS             187        624     21.396        71.396
2 TO 4 HOURS              94        718     10.755        82.151
OVER 4 HOURS             156        874     17.849       100.000

                   DECIMAL HOURS TO COMPLETE VALIDATION
Q_11                FREQUENCY  CUM FREQ    PERCENT   CUM PERCENT

                  .     1642          .          .             .
1/2 HOUR OR LESS         402        402     48.668        48.668
1/2 HR TO 1 HR           190        592     23.002        71.671
1 TO 2 HOURS             129        721     15.617        87.288
OVER 2 HOURS             105        826     12.712       100.000

                      TIMES TALKED TO F.A. OFFICER
Q_12           FREQUENCY  CUM FREQ    PERCENT   CUM PERCENT

         .         1464          .          .             .
DONT KNOW             4          .          .             .
NO ANSWER           129          .          .             .
        1           237        237     27.210        27.210
        2           225        462     25.832        53.042
        3           165        627     18.944        71.986
4 OR 5              139        766     15.959        87.945
6 TO 10              86        852      9.874        97.819
OVER 10              19        871      2.181       100.000
```

TABLE E-75
ITEMS CHECKED FOR INSTITUTIONAL VALIDATION, 1985-86

```
                                 SAS

            CHECK DEPENDENCY STATUS FOR DEPENDENTS?
Q_17A1            FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

          .          276
YES                 1507       1507      68.750      68.750
NO                   685       2192      31.250     100.000

                 CHECK DEP STAT FOR INDEPENDENTS?
Q_17A2           FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

          .          302
YES                 1967       1967      90.813      90.813
NO                   199       2166       9.187     100.000

                     CHECK AGI FOR DEPENDENTS?
Q_17B1           FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

          .          264
YES                 2012       2012      91.289      91.289
NO                   192       2204       8.711     100.000

                    CHECK AGI FOR INDEPENDENTS?
Q_17B2           FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

          .          289
YES                 1989       1989      91.280      91.280
NO                   190       2179       8.720     100.000

                CHECK TAXES PAID FOR DEPENDENTS?
Q_17C1           FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

          .          264
YES                 1921       1921      87.160      87.160
NO                   283       2204      12.840     100.000

               CHECK TAXES PAID FOR INDEPENDENTS?
Q_17C2           FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

          .          302
YES                 1875       1875      86.565      86.565
NO                   291       2166      13.435     100.000

               CHECK EXEMPTIONS FOR DEPENDENTS?
Q_17D1           FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

          .          277
YES                 1889       1889      86.216      86.216
NO                   302       2191      13.784     100.000
```

TABLE E-75
ITEMS CHECKED FOR INSTITUTIONAL VALIDATION, 1985-86 (Continued)

```
                                  419

                  CHECK EXEMPTIONS FOR INDEPENDENTS?
Q_17D2              FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

            .          302
YES                   1880       1880      86.796       86.796
NO                     286       2166      13.204      100.000

                  CHECK ITEM DED FOR DEPENDENTS?
Q_17E1              FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

            .          277
YES                   1002       1002      45.733       45.733
NO                    1189       2191      54.267      100.000

                  CHECK ITEM DED FOR INDEPENDENTS?
Q_17E2              FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

            .          302
YES                    898        898      41.459       41.459
NO                    1268       2166      58.541      100.000

                  CHECK MED & DENT FOR DEPENDENTS?
Q_17F1              FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

            .          277
YES                    994        994      45.367       45.367
NO                    1197       2191      54.633      100.000

                  CHECK MED & DENT FOR INDEPENDENTS?
Q_17F2              FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

            .          302
YES                    965        965      44.552       44.552
NO                    1201       2166      55.448      100.000

                CHECK HOUSEHOLD SIZE FOR DEPENDENTS?
Q_17G1              FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

            .          264
YES                   1838       1838      83.394       83.394
NO                     366       2204      16.606      100.000

               CHECK HOUSEHOLD SIZE FOR INDEPENDENTS?
Q_17G2              FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

            .          289
YES                   1837       1837      84.305       84.305
NO                     342       2179      15.695      100.000
```

TABLE E-75
ITEMS CHECKED FOR INSTITUTIONAL VALIDATION, 1985-86 (Continued)

```
                                SAS

                  CHECK NO. IN CLG FOR DEPENDENTS?
Q_17H1            FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

              .      244
YES                 1662        1662     75.408      75.408
NO                   542        2204     24.592     100.000

                 CHECK NO. IN CLG FOR INDEPENDENTS?
Q_17H2            FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

              .      287
YES                 1621        1621     74.392      74.392
NO                   558        2179     25.608     100.000

                 CHECK VET BENEFITS FOR DEPENDENTS?
Q_17I1            FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

              .      277
YES                 1594        1594     72.752      72.752
NO                   597        2191     27.248     100.000

                CHECK VET BENEFITS FOR INDEPENDENTS?
Q_17I2            FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

              .      302
YES                 1632        1632     75.346      75.346
NO                   534        2166     24.654     100.000

                 CHECK SS BENEFITS FOR DEPENDENTS?
Q_17J1            FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

              .      277
YES                 1453        1453     66.317      66.317
NO                   738        2191     33.683     100.000

                CHECK SS BENEFITS FOR INDEPENDENTS?
Q_17J2            FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

              .      302
YES                 1444        1444     66.667      66.667
NO                   722        2166     33.333     100.000

                CHECK AFDC/WELFARE FOR DEPENDENTS?
Q_17K1            FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

              .      277
YES                 1353        1353     61.753      61.753
NO                   838        2191     38.247     100.000
```

TABLE E-75
ITEMS CHECKED FOR INSTITUTIONAL VALIDATION, 1985-86 (Continued)

```
                              SAS

              CHECK AFDC/WELFARE FOR INDEPENDENTS?
Q_17K2         FREQUENCY   CUM FREQ    PERCENT   CUM PERCENT

        .         302          .           .            .
YES              1369       1369      63.204       63.204
NO                797       2166      36.796      100.000

             CHECK UNEMPLOYMENT INS FOR DEPENDENTS?
Q_17L1         FREQUENCY   CUM FREQ    PERCENT   CUM PERCENT

        .         290          .           .            .
YES              1214       1214      55.739       55.739
NO                964       2178      44.261      100.000

            CHECK UNEMPLOYMENT INS FOR INDEPENDENTS?
Q_17L2         FREQUENCY   CUM FREQ    PERCENT   CUM PERCENT

        .         315          .           .            .
YES              1210       1210      56.201       56.201
NO                943       2153      43.799      100.000

                CHECK HOME VALUE FOR DEPENDENTS?
Q_17M1         FREQUENCY   CUM FREQ    PERCENT   CUM PERCENT

        .         285          .           .            .
YES               673        673      30.829       30.829
NO               1510       2183      69.171      100.000

               CHECK HOME VALUE FOR INDEPENDENTS?
Q_17M2         FREQUENCY   CUM FREQ    PERCENT   CUM PERCENT

        .         310          .           .            .
YES               664        664      30.769       30.769
NO               1494       2158      69.231      100.000

               CHECK SEL SERV REG FOR DEPENDENTS?
Q_17N1         FREQUENCY   CUM FREQ    PERCENT   CUM PERCENT

        .         264          .           .            .
YES              1268       1268      57.532       57.532
NO                936       2204      42.468      100.000

              CHECK SEL SERV REG FOR INDEPENDENTS?
Q_17N2         FREQUENCY   CUM FREQ    PERCENT   CUM PERCENT

        .         289          .           .            .
YES              1268       1268      58.192       58.192
NO                911       2179      41.808      100.000
```

TABLE E-75
ITEMS CHECKED FOR INSTITUTIONAL VALIDATION, 1985-86 (Continued)

```
                                 SAS

                 CHECK OTHER NONTAX INC FOR DEPENDENTS?
Q_17O1          FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

        .             277         .         .            .
NO ANSWER              16         .         .            .
YES                  1218      1218    56.000       56.000
NO                    957      2175    44.000      100.000

               CHECK OTHER NONTAX INC FOR INDEPENDENTS?
Q_17O2          FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

        .             302         .         .            .
NO ANSWER              33         .         .            .
YES                  1165      1165    54.618       54.618
NO                    968      2133    45.382      100.000

                  CHECK STUD/SPOUSE EXP INC FOR DEP
Q_17P1          FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

        .             277         .         .            .
YES                   608       608    27.750       27.750
NO                   1583      2191    72.250      100.000

                CHECK STUD/SPOUSE EXP INC FOR INDEP?
Q_17P2          FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

        .             302         .         .            .
YES                   731       731    33.749       33.749
NO                   1435      2166    66.251      100.000

                  CHECK DEP STUDENT/SPOUSE ASSETS?
Q_17Q1          FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

        .             312         .         .            .
NO ANSWER               5         .         .            .
YES                   512       512    23.803       23.803
NO                   1639      2151    76.197      100.000

                CHECK ANY OTHER ITEM FOR DEPENDENTS?
Q_17R1          FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

        .             569         .         .            .
NO ANSWER              91         .         .            .
YES                   483       483    26.700       26.700
NO                   1326      1809    73.300      100.000
```

TABLE E-75
ITEMS CHECKED FOR INSTITUTIONAL VALIDATION, 1985-86 (Continued)

```
                                SAS

              CHECK ANY OTHER ITEM FOR INDEPENDENTS?
Q_17B2          FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

         .           413         .          .            .
NO ANSWER            109         .          .            .
YES                  473       473     27.075       27.075
NO                  1274      1747     72.925      100.000
```

TABLE E-76
DOCUMENTATION USED FOR INSTITUTIONAL VALIDATION, 1985-86

```
                          DEP DOCUMENT FOR DEP STAT
Q_18A1               FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                  .       952
NO ANSWER                  15         .         .           .
PARENT TAX FORM          1451      1451    96.669      96.669
SUPPORT STAT               30      1481     1.999      98.668
HH/W CLG STMT              13      1494     0.866      99.534
OTHER                       7      1501     0.466     100.000

                          INDEP DOC FOR DEP STAT
Q_18A2               FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                  .       488
NO ANSWER                  11         .         .           .
PARENT TAX FORM          1045      1045    53.073      53.073
STUD TAX FORM             505      1550    25.648      78.720
NON-FILING STMT             4      1554     0.203      78.923
SUPPORT STMT              306      1860    15.541      94.464
PAR OR STUD STMT           18      1878     0.914      95.378
TAX FORM OR STAT           91      1969     4.622     100.000

                          DEP DOC FOR AGI
Q_18B1               FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                  .       493
NO ANSWER                   6         .         .           .
PARENT TAX FORM          1994      1994    98.762      98.762
STUD TAX FORM               4      1998     0.198      98.960
SUPPORT STAT                4      2002     0.198      99.158
MILTRY STMT                 6      2008     0.297      99.455
OTHER                       1      2009     0.050      99.505
TAX FORM OR STMT           10      2019     0.495     100.000

                          INDEP DOC FOR AGI
Q_18B2               FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                  .       466
NO ANSWER                   6         .         .           .
PARENT TAX FORM           234       234    11.723      11.723
STUD TAX FORM            1726      1960    86.473      98.196
OTHER                       5      1965     0.251      98.447
TAX FORM OR STMT           31      1996     1.553     100.000
```

TABLE E-76
DOCUMENTATION USED FOR INSTITUTIONAL VALIDATION, 1985-86 (Continued)

```
                                   SAS

                     DEP DOC FOR FED TAXES PAID
Q_1AC1             FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                      538
PARENT TAX FORM      1930        1930    100.000      100.000

                    INDEP DOC FOR FED TAXES PAID
Q_1AC2             FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                      580
PARENT TAX FORM       175         175      9.269        9.269
STUD TAX FORM        1704        1879     90.254       99.523
TAX FORM OR STMT        9        1888      0.477      100.000

                   DEP DOC FOR NUMBER OF EXEMPTIONS
Q_1AD1             FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                      566
PARENT TAX FORM      1902        1902    100.000      100.000

                  INDEP DOC FOR NUMBER OF EXEMPTIONS
Q_1AD2             FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                      575
PARENT TAX FORM       159         159      8.399        8.399
STUD TAX FORM        1699        1858     89.752       98.151
IRS TRANSCRIPT         11        1869      0.581       98.732
TAX FORM OR STMT       24        1893      1.268      100.000

                   DEP DOC FOR ITEMIZED DEDUCTIONS
Q_1AE1             FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                     1465
PARENT TAX FORM       994         994     99.103       99.103
STUD TAX FORM           9        1003      0.897      100.000

                  INDEP DOC FOR ITEMIZED DEDUCTIONS
Q_1AE2             FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                     1569
PARENT TAX FORM        89          89      9.900        9.900
STUD TAX FORM         810         899     90.100      100.000
```

TABLE E-76
DOCUMENTATION USED FOR INSTITUTIONAL VALIDATION, 1985-86 (Continued)

```
                                   SAS

                          DEP DOC FOR MED & DENTAL EXPENSES
Q_18F1                    FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                  .          1367          .          .            .
PARENT TAX FORM               880        880     87.912       87.912
OTHER                          93        973      9.291       97.203
PAR OR STUD STMT               16        989      1.598       98.801
OFFICIAL STMT                  12       1001      1.199      100.000

                         INDEP DOC FOR MED & DENT EXPENSES
Q_18F2                    FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                  .          1190          .          .            .
NO ANSWER                      12          .          .            .
PARENT TAX FORM                77         77      8.021        8.021
STUD TAX FORM                 721        798     75.104       83.125
NON-FILING STMT                12        810      1.250       84.375
OTHER                         115        925     11.979       96.354
PAR OR STUD STMT               16        941      1.667       98.021
OFFICIAL STMT                  12        953      1.250       99.271
TAX FORM OR STMT                7        960      0.729      100.000

                              DEP DOC FOR HOUSEHOLD SIZE
Q_18G1                    FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                  .           615          .          .            .
PARENT TAX FORM               693        693     37.399       37.399
STUD TAX FORM                   9        702      0.486       37.885
HH/# CLG STMT                1081       1783     58.338       96.222
STMT FR OTH INST                8       1791      0.432       96.654
OTHER                          54       1845      2.914       99.568
PAR OR STUD STMT                8       1853      0.432      100.000

                             INDEP DOC FOR HOUSEHOLD SIZE
Q_18G2                    FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                  .           616          .          .            .
PARENT TAX FORM                59         59      3.186        3.186
STUD TAX FORM                 599        658     32.343       35.529
HH/# CLG STMT                1124       1782     60.691       96.220
STMT FR OTH INST                8       1790      0.432       96.652
OTHER                          54       1844      2.916       99.568
PAR OR STUD STMT                8       1852      0.432      100.000
```

TABLE E-76
DOCUMENTATION USED FOR INSTITUTIONAL VALIDATION, 1985-86 (Continued)

```
                                      SAS

                         DEP DOC FOR NUMBER IN COLLEGE
Q_1A01                 FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                   .       805        .          .           .
NO ANSWER                    8        .          .           .
PARENT TAX FORM             16        16      0.967        0.967
HH/# CLG STMT             1497      1513     90.453       91.420
STMT FR OTH INST            14      1527      0.846       92.266
VA DOC                       6      1533      0.363       92.628
OTHER                      105      1638      6.344       98.973
PAR OR STUD STMT            17      1655      1.027      100.000

                        INDEP DOC FOR NUMBER IN COLLEGE
Q_1A02                 FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                   .       846        .          .           .
NO ANSWER                    4        .          .           .
PARENT TAX FORM              2         2      0.124        0.124
STUD TAX FORM               14        16      0.867        0.991
HH/# CLG STMT             1456      1472     90.211       91.202
STMT FR OTH INST            14      1486      0.867       92.069
VA DOC                       6      1492      0.372       92.441
OTHER                      105      1597      6.506       98.947
PAR OR STUD STMT            17      1614      1.053      100.000

                           DEP DOC FOR VET BENEFITS
Q_1A11                 FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                   .       871        .          .           .
NO ANSWER                    3        .          .           .
VA DOC                    1491      1491     93.538       93.538
SOC SRVC DOC                 6      1497      0.376       93.915
MLTRY STMT                  28      1525      1.757       95.671
OTHER                       60      1585      3.764       99.435
PAR OR STUD STMT             9      1594      0.565      100.000

                          INDEP DOC FOR VET BENEFITS
Q_1A12                 FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                   .       833        .          .           .
NO ANSWER                    5        .          .           .
VA DOC                    1529      1529     93.689       93.689
SOC SRVC DOC                 6      1535      0.368       94.056
MLTRY STMT                  28      1563      1.716       95.772
OTHER                       60      1623      3.676       99.449
PAR OR STUD STMT             9      1632      0.551      100.000
```

TABLE E-76
DOCUMENTATION USED FOR INSTITUTIONAL VALIDATION, 1985-86 (Continued)

```
                                  SAS

                          DEP DOC FOR SS BENEFITS
Q_18J1               FREQUENCY   CUM FREQ    PERCENT   CUM PERCENT

                 .       1002
PARENT TAX FORM            36          36      2.456         2.456
VA DOC                      6          42      0.409         2.865
SOC SRVC DOC             1329        1371     90.655        93.520
OTHER                      86        1457      5.866        99.386
PAR OR STUD STMT            9        1466      0.614       100.000

                         INDEP DOC FOR SS BENEFITS
Q_18J2               FREQUENCY   CUM FREQ    PERCENT   CUM PERCENT

                 .       1011
STUD TAX FORM              14          14      0.961         0.961
SOC SRVC DOC             1348        1362     92.519        93.480
OTHER                      86        1448      5.903        99.382
PAR OR STUD STMT            9        1457      0.618       100.000

                        DEP DOC FOR AFDC OR WELFARE
Q_18K1               FREQUENCY   CUM FREQ    PERCENT   CUM PERCENT

                 .       1108
PARENT TAX FORM             2           2      0.147         0.147
NON-FILING STMT            43          45      3.162         3.309
HH/W CLG STMT               4          49      0.294         3.603
SOC SRVC DOC             1155        1204     84.926        88.529
OTHER                     147        1351     10.809        99.338
PAR OR STUD STMT            9        1360      0.662       100.000

                       INDEP DOC FOR AFDC OR WELFARE
Q_18K2               FREQUENCY   CUM FREQ    PERCENT   CUM PERCENT

                 .       1102
NO ANSWER                   0           .          .             .
PARENT TAX FORM             2           2      0.146         0.146
STUD TAX FORM               8          10      0.585         0.732
NON-FILING STMT            24          34      1.756         2.487
SUPPORT STMT               11          45      0.805         3.292
HH/W CLG STMT               4          49      0.293         3.584
SOC SRVC DOC             1163        1212     85.077        88.661
OTHER                     138        1350     10.095        98.756
PAR OR STUD STMT           17        1367      1.244       100.000
```

TABLE E-76
DOCUMENTATION USED FOR INSTITUTIONAL VALIDATION, 1985-86 (Continued)

```
                                    SAS

                         DEP DOC FOR UNEMPLOYMENT INS
Q_18L1               FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                 .        1251        .          .           .
NO ANSWER                    6        .          .           .
PARENT TAX FORM            665      665     54.913      54.913
NON-FILING STMT             23      688      1.899      56.813
SOC SRVC DOC               168      856     13.873      70.685
OTHER                      324     1180     26.755      97.440
PAR OR STUD STMT             9     1189      0.743      98.183
TAX FORM OR STMT            22     1211      1.817     100.000

                         INDEP DOC FOR UNEMPLOYMENT INS
Q_18L2               FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                 .        1255        .          .           .
NO ANSWER                   10        .          .           .
PARENT TAX FORM            117      117      9.758       9.758
STUD TAX FORM              513      630     42.786      52.544
NON-FILING STMT             23      653      1.918      54.462
SOC SRVC DOC               176      829     14.679      69.141
OTHER                      324     1153     27.023      96.163
PAR OR STUD STMT             9     1162      0.751      96.914
TAX FORM OR STMT            37     1199      3.086     100.000

                         DEP DOC FOR HOME VALUE
Q_18M1               FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                 .        1794        .          .           .
NO ANSWER                   22        .          .           .
PARENT TAX FORM              1        1      0.153       0.153
APPRAISAL                  330      331     50.613      50.767
STMT OF VALUE               28      359      4.294      55.061
OTHER                      275      634     42.178      97.239
PAR OR STUD STMT            18      652      2.761     100.000

                         INDEP DOC FOR HOME VALUE
Q_18M2               FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                 .        1803        .          .           .
NO ANSWER                   22        .          .           .
PARENT TAX FORM              1        1      0.156       0.156
SUPPORT STMT                 6        7      0.933       1.089
APPRAISAL                  341      348     53.033      54.121
STMT OF VALUE               28      376      4.355      58.476
OTHER                      249      625     38.725      97.201
PAR OR STUD STMT            18      643      2.799     100.000
```

TABLE E-76
DOCUMENTATION USED FOR INSTITUTIONAL VALIDATION, 1985-86 (Continued)

```
                                   949


                          DEP DOC FOR SELECTIVE SERVICE
Q_18H1                 FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                   .       1182         .          .           .
NO ANSWER                     5         .          .           .
STUD TAX FORM                 8         8      0.625       0.625
SEL SERV DOC               1245      1253     97.190      97.814
OTHER                        17      1270      1.327      99.141
PAR OR STUD STMT             11      1281      0.859     100.000

                          INDEP DOC FOR SELECTIVE SERVICE
Q_18H2                 FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                   .       1182         .          .           .
NO ANSWER                     5         .          .           .
SEL SERV DOC               1253      1253     97.814      97.814
OTHER                        17      1270      1.327      99.141
PAR OR STUD STMT             11      1281      0.859     100.000

                          DEP DOC FOR OTHER NONTAX INC
Q_18I1                 FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                   .       1243         .          .           .
NO ANSWER                    71         .          .           .
PARENT TAX FORM             207       207     17.988      17.988
NON-FILING STMT              19       226      1.651      19.635
HH/W CLG STMT                 7       233      0.608      20.243
SOC SRVC DOC                136       369     11.816      32.059
MLTRY STMT                    7       376      0.608      32.667
OTHER                       553       929     48.045      80.712
STUD CONFERENCE               3       932      0.261      80.973
PAR OR STUD STMT            119      1051     10.339      91.312
OFFICIAL STMT                56      1107      4.865      96.177
TAX FORM OR STMT             44      1151      3.823     100.000

                          INDEP DOC FOR OTHER NONTAX INC
Q_18I2                 FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                   .       1278         .          .           .
NO ANSWER                    71         .          .           .
PARENT TAX FORM              36        36      3.226       3.226
STUD TAX FORM               141       177     12.634      15.860
NON-FILING STMT              32       209      2.867      18.728
STMT FR OTH INST              6       215      0.538      19.265
SOC SRVC DOC                136       351     12.186      31.452
MLTRY STMT                    7       358      0.627      32.079
OTHER                       536       894     48.029      80.108
STUD CONFERENCE               3       897      0.269      80.376
PAR OR STUD STMT            113      1010     10.125      90.502
OFFICIAL STMT                56      1066      5.018      95.520
TAX FORM OR STMT             50      1116      4.480     100.000
```

TABLE E-76
DOCUMENTATION USED FOR INSTITUTIONAL VALIDATION, 1985-86 (Continued)

```
                                  SAS

                        DEP DOC FOR STUD/SPOUSE INC
Q_1801                 FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                  .       1382         .          .           .
NO ANSWER                   16         .          .           .
PARENT TAX FORM             32        32      6.809       6.809
STUD TAX FORM              134       166     28.511      35.319
NON-FILING STMT             11       177      2.340      37.660
SUPPORT STMT                 7       184      1.489      39.149
APPRAISAL                   26       210      5.532      44.681
STMT OF VALUE               35       245      7.447      52.128
OTHER                      162       407     34.468      86.596
PAR OR STUD STMT            46       453      9.787      96.383
OFFICIAL STMT               17       470      3.617     100.000


                        DEP DOC FOR OTHER ITEM
Q_1811                 FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                  .       1385         .          .           .
NO ANSWER                   39         .          .           .
PARENT TAX FORM             60        60     13.514      13.514
STMT FR OTH INST             9        69      2.027      15.541
STMT OF VALUE               35       104      7.883      23.423
OTHER                      180       284     40.541      63.964
PAR OR STUD STMT            13       297      2.928      66.892
OFFICIAL STMT               11       308      2.477      69.369
IMMIGRATION DOC             99       407     22.297      91.667
TAX FORM OR STMT            37       444      8.333     100.000


                       INDEP DOC FOR OTHER ITEM
Q_1812                 FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

                  .       1395         .          .           .
NO ANSWER                   31         .          .           .
PARENT TAX FORM             13        13      2.941       2.941
STUD TAX FORM               43        56      9.729      12.670
STMT FR OTH INST             9        65      2.036      14.706
STMT OF VALUE               35       100      7.919      22.624
OTHER                      193       293     43.665      66.290
PAR OR STUD STMT            13       306      2.941      69.231
OFFICIAL STMT               11       317      2.489      71.719
IMMIGRATION DOC             99       416     22.398      94.118
TAX FORM OR STMT            26       442      5.882     100.000
```

TABLE E-77
IRS TAX FILING STATUS BY RECEIPT OF CERTIFIED TAX FORM, 1985-86

SUMMARY OF IRS INFORMATION RECEIVED

		IRS TAX FORM RECEIVED?			
		NO FORM RECEIVED		FORM RECEIVED	
		NUMBER	PERCENT	NUMBER	PERCENT
APPLICABLE TAXPAYER	IRS FILING STATUS				
INDEPENDENT STUDENT	FILED	159.00	21.46	582.00	78.54
	DID NOT FILE	244.00	100.00	.	.
PARENT OF DEPENDENT STUDENT	FILED	256.00	19.12	1083.00	80.88
	DID NOT FILE	141.00	100.00	.	.
	IRS FILING STATUS				
ALL	FILED	415.00	19.95	1665.00	80.05
	DID NOT FILE	385.00	100.00	.	.

TABLE E-78
FREQUENCIES OF TITLE IV RECIPIENTS BY LEVEL OF AUTOMATION, PROFESSIONAL STAFF FTE'S, AND CLERICAL/DATA ENTRY STAFF FTE'S, 1985-86

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                     FREQUENCIES CF TITLE IV RECIPIENTS

                          LEVEL OF AUTCMATION
AUTO                 FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

NO AUTOMATICN         1026583    1026583    20.314       20.314
LOW AUTOMATION         754392    1780975    14.928       35.242
MID AUTOMATION        1628399    3409374    32.223       67.465
HIGH AUTOMATION       1644186    5053560    32.535      100.000

                       PROFESSIONAL STAFF FTES
   PROF_FTE          FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

   FEWER THAN 5       3314319    3314319    65.588       65.588
   5 OR MORE          1738889    5053208    34.412      100.000

                          CLERICAL STAFF FTES
   CLER_FTE          FREQUENCY  CUM FREQ   PERCENT  CUM PERCENT

   FEWER THAN 4       2724816    2724816    53.923       53.923
   4 OR MORE          2328376    5053192    46.077      100.000
```

TABLE E-79
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT 2-YEAR INSTITUTIONS, 1985-86

SAS

TYPE AND CONTROL 2 YEAR

			NUMBER OF	NDSL	CWS	SEOG	CB	PELL	GSL
			STUDENTS	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE
GSL CERTIFIC-ATION	PELL GRANT	CBTYPAID							
NO GSL CERT	NO PELL GRANT	NDSL	1029	1000.00	.	.	1000.00	.	.
		CWS	3437	.	1007.89	.	1007.89	.	.
		SEOG	3393	.	.	416.82	416.82	.	.
		NDSL & CWS	1029	1000.00	1000.00	.	2000.00	.	.
		NDSL & SEOG	2398	865.39	.	573.95	1439.34	.	.
		CWS & SEOG	4175	.	1532.80	518.69	2051.50	.	.
	PELL GRANT	NO CAMPUS-BASED	431530	.	.	.	0.00	941.08	.
		NDSL	9967	803.51	.	.	803.51	1190.98	.
		CWS	57684	.	1327.64	.	1327.64	1048.47	.
		SECG	52480	.	.	405.77	405.77	1075.08	.
		NDSL & CWS	5667	855.08	1777.66	.	2632.74	1188.73	.
		NDSL & SEOG	9824	527.01	.	382.41	909.42	1057.39	.
		CWS & SEOG	26713	.	1486.24	431.22	1917.46	1102.93	.
		NDSL,CWS, SECG	6754	841.11	1052.04	663.43	2556.58	1111.35	.
GSL CERT	NO PELL GRANT	NO CAMPUS-BASED	177367	.	.	.	.	.	2101.33
		NDSL	1753	1000.00	.	.	1000.00	.	2310.00
		CWS	4025	.	1027.48	.	1027.48	.	2500.00
		SECG	2366	.	.	238.20	238.20	.	2500.00
		NDSL & SEOG	1941	520.55	.	319.63	840.18	.	2500.00
		CWS & SEOG	5576	.	996.23	462.52	1458.74	.	1634.50
	PELL GRANT	NO CAMPUS-BASED	202154	.	.	.	.	1229.18	2138.26

(CONTINUED)

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* These figures are estimated from the sample, not derived from program data.

TABLE E-79
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT 2-YEAR INSTITUTIONS, 1985-86 (Continued)

848

TYPE AND CONTROL 2 YEAR

			NUMBER OF STUDENTS	NDSL AVERAGE	CWS AVERAGE	SEOG AVERAGE	CB AVERAGE	PELL AVERAGE	GSL AVERAGE
GSL CERTIFIC-ATION	PELL GRANT	CBTYPAID							
GSL CERT	PELL GRANT	NDSL	7768	905,11	.	.	905,11	1503,34	2359,63
		CWS	15081	.	1235,59	.	1235,59	1169,49	2346,15
		SEOG	30851	.	.	412,33	412,33	1272,37	2197,66
		NDSL & CWS	3092	697,02	1343,54	.	2040,56	1032,36	2201,35
		NDSL & SEOG	1309	799,00	.	921,60	1720,60	1141,77	2296,16
		CWS & SEOG	9365	.	1123,19	740,44	1863,62	1352,02	2431,02
		NDSL,CWS, SEOG	2546	942,84	675,93	358,21	1976,98	1052,40	2208,69
GSL CERTIFIC-ATION	PELL GRANT								
NO GSL CERT	NO PELL GRANT	MARGINAL	15423	927,97	1260,56	497,63	1296,67	.	.
	PELL GRANT	MARGINAL	600627	736,14	1378,51	428,64	1151,80	980,59	.
GSL CERT	NO PELL GRANT	MARGINAL	193030	748,09	1009,33	380,75	1035,49	.	2106,95
	PELL GRANT	MARGINAL	272167	858,46	1164,34	494,05	491,73	1246,02	2175,04
GSL CERTIFIC-ATION		CBTYPAID							
NO GSL CERT	MARGINAL	NO CAMPUS-BASED	431938	.	.	.	0,00	941,08	.
		NDSL	10996	821,91	.	.	821,91	1190,90	.
		CWS	61121	.	1309,66	.	1309,66	1048,47	.
		SEOG	55834	.	.	406,43	406,43	1075,08	.
		NDSL & CWS	6696	877,36	1658,11	.	2535,48	1108,73	.

(CONTINUED)

* These figures are estimated from the sample, not derived from program data.

TABLE E-79
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT 2-YEAR INSTITUTIONS, 1985-86 (Continued)

BAB

TYPE AND CONTROL 2 YEAR

			NUMBER OF	NDSL	CWS	SEOG	CB	PELL	GSL
			STUDENTS	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE
GSL CERTIFIC-ATION		CBTYPAID							
NO GSL CERT	MARGINAL	NDSL & SEOG	12223	593,41	.	419,99	1013,41	1057,39	.
		CWS & SEOG	30888	.	1492,53	443,05	1035,58	1102,53	.
		NDSL,CWS, SEOG	6794	841,11	1052,04	663,43	2556,58	1111,35	.
GSL CERT	MARGINAL	NO CAMPUS-BASED	379921	.	.	.	.	1229,18	2121,00
		NDSL	9522	922,58	.	.	922,58	1503,34	2350,49
		CWS	19107	.	1191,74	.	1191,74	1169,49	2378,56
		SEOG	33218	.	.	399,92	399,92	1272,37	2219,20
		NDSL & CWS	3092	697,02	1343,54	.	2040,56	1032,36	2201,35
		NDSL & SEOG	3251	632,71	.	562,12	1194,83	1141,77	2417,89
		CWS & SEOG	14981	.	1075,80	636,71	1712,52	1352,82	2133,75
		NDSL,CWS, SEOG	2546	942,84	675,93	358,21	1076,98	1852,40	2208,68
GSL CERTIFIC-ATION									
NC GSL CERT	MARGINAL	MARGINAL	616050	759,41	1368,85	435,12	1163,55	980,59	.
GSL CERT	MARGINAL	MARGINAL	465196	836,31	1126,84	473,30	999,73	1246,02	2146,79
	PELL GRANT	CBTYPAID							
MARGINAL	NO PELL GRANT	NO CAMPUS-BASED	177367	.	.	.	.	.	2101,33
		NDSL	2783	1000,00	.	.	1000,00	.	2318,00
		CWS	7462	.	1018,46	.	1018,46	.	2500,00
		SEOG	5720	.	.	342,92	342,92	.	2500,00

(CONTINUED)

* These figures are estimated from the sample, not derived from program data.

TABLE E-79
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT 2-YEAR INSTITUTIONS, 1985-86 (Continued)

SAS

TYPE AND CONTROL 2 YEAR

			NUMBER OF STUDENTS	NDSL AVERAGE	CWS AVERAGE	SEOG AVERAGE	CB AVERAGE	PELL AVERAGE	GSL AVERAGE
	PELL GRANT	CBTYPAID							
MARGINAL	NO PELL GRANT	NDSL & CWS	1029	1000,00	1000,00	.	2000,00	.	.
		NDSL & SEOG	4340	711,14	.	460,19	1171,33	.	2500,00
		CWS & SEOG	9751	.	1225,97	486,57	1712,54	.	1634,50
	PELL GRANT	NO CAMPUS-BASED	633692	.	.	.	0,00	1032,99	2138,26
		NDSL	17735	848,01	.	.	848,01	1327,76	2359,63
		CWS	72765	.	1308,56	.	1308,56	1073,55	2340,15
		SEOG	83332	.	.	408,19	408,19	1148,12	2197,66
		NDSL & CWS	8759	799,28	1624,40	.	2423,68	1133,52	2201,35
		NDSL & SEOG	11134	559,00	.	445,02	1004,02	1067,31	2296,16
		CWS & SEOG	36078	.	1392,00	511,48	1903,48	1167,50	2431,02
		NDSL,CWS, SEOG	9300	868,95	949,09	579,89	2397,93	1314,19	2208,68
	PELL GRANT								
MARGINAL	NO PELL GRANT	MARGINAL	208453	846,22	1128,33	439,32	1164,08	.	2106,95
	PELL GRANT	MARGINAL	872794	774,50	1327,74	449,26	1105,51	1063,36	2175,04
		CBTYPAID							
MARGINAL	MARGINAL	NO CAMPUS-BASED	811059	.	.	.	0,00	1032,99	2121,00
		NDSL	20518	868,63	.	.	868,63	1327,76	2350,69
		CWS	80228	.	1281,58	.	1281,58	1073,55	2378,56
		SEOG	89052	.	.	404,00	404,00	1148,12	2219,20
		NDSL & CWS	9789	820,39	1558,73	.	2379,12	1133,52	2201,35

(CONTINUED)

* These figures are estimated from the sample, not derived from program data.

TABLE E-79
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT 2-YEAR INSTITUTIONS, 1985-86 (Continued)

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                                              SAS

TYPE AND CONTROL 2 YEAR
-----------------------------------------------------------------------------------------------------
|                                    |NUMBER OF| NDSL  |  CWS  | SEOG  |  CB   | PELL  |  GSL  |
|                                    |---------+-------+-------+-------+-------+-------+-------|
|                                    |STUDENTS |AVERAGE|AVERAGE|AVERAGE|AVERAGE|AVERAGE|AVERAGE|
|------------------------------------+---------+-------+-------+-------+-------+-------+-------|
|          |          |CSTYPAID      |         |       |       |       |       |       |       |
|----------+----------+--------------|         |       |       |       |       |       |       |
|MARGINAL  |MARGINAL  |NDSL & SEOG   |    15473| 601,67|      .| 449,85|1051,52|1067,31|2417,09|
|          |          |--------------+---------+-------+-------+-------+-------+-------+-------|
|          |          |CWS & SEOG    |    45829|      .|1356,67| 506,19|1862,85|1167,50|2133,75|
|          |          |--------------+---------+-------+-------+-------+-------+-------+-------|
|          |          |NDSL,CWS,     |         |       |       |       |       |       |       |
|          |          |SEOG          |     9300| 868,95| 949,09| 579,89|2397,93|1314,19|2208,68|
|----------+----------+--------------+---------+-------+-------+-------+-------+-------+-------|
|MARGINAL  |MARGINAL  |MARGINAL      |  1081246| 785,11|1302,60| 443,02|1112,17|1063,36|2146,79|
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```

* These figures are estimated from the sample, not derived from program data.

TABLE E-80
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT 4-YEAR PUBLIC INSTITUTIONS, 1985-86

SAS

TYPE AND CONTROL 4 YR PUBLIC

GSL CERTIFICATION	PELL GRANT	CBTYPAID	NUMBER OF STUDENTS	NDSL AVERAGE	CWS AVERAGE	SEOG AVERAGE	CB AVERAGE	PELL AVERAGE	GSL AVERAGE
NO GSL CERT	NO PELL GRANT	NDSL	24307	1106,64	.	.	1106,64	.	.
		CWS	14319	.	768,92	.	768,92	.	.
		SEOG	7646	.	.	662,45	662,45	.	.
		NDSL & CWS	11097	829,23	1191,07	.	2020,30	.	.
		NDSL & SEOG	11943	891,25	.	745,31	1636,56	.	.
		CWS & SEOG	5509	.	1463,40	691,43	2154,83	.	.
		NDSL,CWS, SEOG	4070	1086,35	1791,57	741,42	3619,34	.	.
	PELL GRANT	NO CAMPUS-BASED	398161	.	.	.	0,00	1354,77	.
		NDSL	55501	968,05	.	.	968,05	1343,64	.
		CWS	53986	.	1163,21	.	1163,21	1356,95	.
		SEOG	32568	.	.	539,13	539,13	1308,12	.
		NDSL & CWS	27648	874,47	998,17	.	1872,64	1575,21	.
		NDSL & SEOG	29247	817,82	.	541,14	1358,96	1365,48	.
		CWS & SEOG	21580	.	1208,21	434,60	1642,81	1403,65	.
		NDSL,CWS, SEOG	20373	1033,37	1474,60	581,60	3089,57	1490,70	.
GSL CERT	NO PELL GRANT	NO CAMPUS-BASED	810733	.	.	.	0,00	.	2529,65
		NDSL	29358	1118,64	.	.	1118,64	.	3393,76
		CWS	23742	.	1062,75	.	1062,75	.	2471,05
		SEOG	2859	.	.	1100,00	1100,00	.	2500,00
		NDSL & CWS	23730	1138,42	1468,63	.	2607,05	.	2356,31
		NDSL & SEOG	3920	872,28	.	700,00	1572,28	.	1459,45

(CONTINUED)

* These figures are estimated from the sample, not derived from program data.

TABLE E-80
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT 4-YEAR PUBLIC INSTITUTIONS, 1985-86 (Continued)

SAS

TYPE AND CONTROL 4 YR PUBLIC

			NUMBER OF	NDSL	CWS	SEOG	CB	PELL	GSL
			STUDENTS	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE
GSL CERTIFIC-ATION	PELL GRANT	CBTYPAID							
GSL CERT	NO PELL GRANT	CWS & SEOG	7017	.	1326,66	784,91	2111,58	.	2040,33
		NDSL,CWS, SEOG	2859	650,00	850,00	400,00	1900,00	.	1750,00
	PELL GRANT	NO CAMPUS-BASED	277813	.	.	.	0,00	1299,46	2327,21
		NDSL	47116	820,07	.	.	820,07	1306,13	2072,70
		CWS	49117	.	1086,57	.	1086,57	1504,34	2040,76
		SEOG	22541	.	.	523,34	523,34	1501,04	2103,39
		NDSL & CWS	24939	748,23	1089,74	.	1837,98	1301,11	1871,09
		NDSL & SEOG	24402	836,84	.	708,62	1545,46	1422,42	2204,43
		CWS & SEOG	16096	.	1155,93	506,26	1662,19	1490,89	2028,96
		NDSL,CWS, SEOG	30927	764,30	1047,06	687,81	2499,17	1301,78	2070,68
GSL CERTIFIC-ATION	PELL GRANT								
NO GSL CERT	NO PELL GRANT	MARGINAL	78891	995,13	1131,03	712,87	1613,85	.	.
	PELL GRANT	MARGINAL	599083	923,02	1105,48	526,30	1330,94	1360,48	.
GSL CERT	NO PELL GRANT	MARGINAL	904218	1087,97	1252,39	752,94	1956,98	.	2540,62
	PELL GRANT	MARGINAL	492951	799,68	1086,35	622,66	1349,69	1353,60	2209,74
GSL CERTIFIC-ATION		CBTYPAID							
NO GSL CERT	MARGINAL	NO CAMPUS-BASED	358181	.	.	.	0,00	1354,77	.

(CONTINUED)

* These figures are estimated from the sample, not derived from program data.

TABLE E-80
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT 4-YEAR PUBLIC INSTITUTIONS, 1985-86 (Continued)

SAS

TYPE AND CONTROL 4 YR PUBLIC

GSL CERTIFICATION		CBTYPAID	NUMBER OF STUDENTS	NDSL AVERAGE	CWS AVERAGE	SEOG AVERAGE	CB AVERAGE	PELL AVERAGE	GSL AVERAGE
NO GSL CERT	MARGINAL	NDSL	79808	1007,48	.	.	1007,48	1343.64	.
		CWS	68305	.	1080,55	.	1080,55	1356.95	.
		SEOG	40214	.	.	562,58	562,58	1308.12	.
		NDSL & CWS	38745	861,51	1053,42	.	1914,93	1575.21	.
		NDSL & SEOG	41190	839,11	.	600,34	1439,45	1365.48	.
		CWS & SEOG	27088	.	1260,11	486,82	1746,93	1403.65	.
		NDSL,CWS, SEOG	24443	1042,19	1527,37	608,21	3177,77	1490.70	.
GSL CERT	MARGINAL	NO CAMPUS-BASED	1088547	.	.	.	0,00	1299.46	2477,98
		NDSL	76475	934,69	.	.	934,69	1386.13	2579,85
		CWS	72859	.	1078,80	.	1078,80	1504,34	2185,02
		SEOG	25399	.	.	588,25	588,25	1581,04	2148,03
		NDSL & CWS	48669	938,48	1274,48	.	2212,96	1301.11	2108,13
		NDSL & SEOG	20323	841,75	.	707,43	1549,18	1422.42	2101,31
		CWS & SEOG	23113	.	1207,77	590,85	1798,62	1490.89	2032,13
		NDSL,CWS, SEOG	33785	754,63	1030,38	663,46	2448,47	1301.78	2083,47
GSL CERTIFICATION									
NO GSL CERT	MARGINAL	MARGINAL	677974	943,73	1173,07	567,23	1357,37	1368.48	.
GSL CERT	MARGINAL	MARGINAL	1397170	889,13	1139,71	642,28	1413,50	1353.60	2423,88

(CONTINUED)

* These figures are estimated from the sample, not derived from program data.

TABLE E-80
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT 4-YEAR PUBLIC INSTITUTIONS, 1985-86 (Continued)

SAS

TYPE AND CONTROL 4 YR PUBLIC

	PELL GRANT	CBTYPAID	NUMBER OF STUDENTS	NDSL AVERAGE	CWS AVERAGE	SEOG AVERAGE	CB AVERAGE	PELL AVERAGE	GSL AVERAGE
MARGINAL	NO PELL GRANT	NO CAMPUS-BASED	810733	.	.	.	0.00	.	2529.65
		NDSL	53665	1113.20	.	.	1113.20	.	3393.76
		CWS	38061	.	952.20	.	952.20	.	2471.05
		SECG	10505	.	.	781.53	781.53	.	2500.00
		NDSL & CWS	34027	1039.90	1380.19	.	2420.10	.	2356.31
		NDSL & SEOG	15864	886.57	.	734.11	1620.68	.	1459.65
		CWS & SECG	12525	.	1386.80	743.80	2130.60	.	2040.33
		NDSL,CWS, SECG	6929	906.30	1403.06	600.54	2909.90	.	1790.00
	PELL GRANT	NO CAMPUS-BASED	635994	.	.	.	0.00	1330.61	2327.21
		NDSL	102617	897.94	.	.	897.94	1363.15	2072.70
		CWS	103103	.	1126.70	.	1126.70	1427.16	2046.76
		SECG	55109	.	.	532.67	532.67	1419.75	2103.39
		NDSL & CWS	32980	814.60	1041.60	.	1856.20	1445.22	1871.99
		NDSL & SEOG	53649	826.47	.	617.32	1443.79	1391.38	2204.43
		CWS & SECG	37676	.	1185.88	465.21	1651.09	1440.92	2020.56
		NDSL,CWS, SECG	51300	871.16	1216.85	645.63	2733.64	1376.80	2870.60
	PELL GRANT								
MARGINAL	NO PELL GRANT	MARGINAL	983109	1045.07	1206.40	727.43	1492.42	.	2540.62
	PELL GRANT	MARGINAL	1092039	861.07	1136.42	572.09	1344.01	1361.76	2209.74

(CONTINUED)

* These figures are estimated from the sample, not derived from program data.

TABLE E-80
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT 4-YEAR PUBLIC INSTITUTIONS, 1985-86 (Continued)

SAS

TYPE AND CONTROL 4 YR PUBLIC

			NUMBER OF	NDSL	CWS	SEOG	CB	PELL	GSL
			STUDENTS	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE
		CBTYPAID							
MARGINAL	MARGINAL	NO CAMPUS-BASED	1446727	.	.	.	0,00	1330,61	2477,98
		NDSL	156203	971,86	.	.	971,86	1363,15	2579,85
		CWS	141164	.	1079,65	.	1079,65	1427,16	2185,02
		SEOG	65613	.	.	572,52	572,52	1419,75	2148,03
		NDSL & CWS	87414	904,36	1176,50	.	2080,86	1445,22	2108,13
		NDSL & SEOG	69513	840,19	.	643,97	1484,16	1391,38	2101,31
		CWS & SEOG	50201	.	1236,01	534,72	1770,73	1440,92	2032,13
		NDSL,CWS, SEOG	58228	875,34	1239,01	640,27	2754,61	1376,80	2043,87
MARGINAL	MARGINAL	MARGINAL	2075144	916,20	1155,60	601,32	1389,04	1361,76	2423,88

* These figures are estimated from the sample, not derived from program data.

TABLE E-81
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT 4-YEAR PRIVATE INSTITUTIONS, 1985-86

SAS

TYPE AND CONTROL 4 YR PRIVATE

			NUMBER OF	NDSL	CWS	SEOG	CB	PELL	GSL
			STUDENTS	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE
GSL CERTIFIC-ATION	PELL GRANT	CBTYPAID							
NO GSL CERT	NO PELL GRANT	NDSL	9690	956,23	.	.	956,23	.	.
		CWS	2841	.	1165,50	.	1165,50	.	.
		SECG	5463	.	.	574,00	574,00	.	.
		NDSL & CWS	6723	960,35	735,64	.	1695,99	.	.
		NDSL & SEOG	5681	660,00	.	560,00	1220,00	.	.
		CWS & SECG	3781	.	814,41	1167,14	1981,55	.	.
		NDSL,CWS, SECG	8303	1019,10	845,56	826,30	2690,97	.	.
	PELL GRANT	NO CAMPUS-BASED	99321	.	.	.	.	1456,51	.
		NDSL	14036	1147,98	.	.	1147,98	1316,29	.
		CWS	20898	.	867,21	.	867,21	1478,56	.
		SECG	8423	.	.	659,13	659,13	1268,35	.
		NDSL & CWS	10635	1048,26	932,57	.	1980,83	1705,77	.
		NDSL & SECG	9713	1090,49	.	764,52	1855,01	1527,58	.
		CWS & SEOG	15135	.	1028,19	705,18	1733,38	1555,55	.
		NDSL,CWS, SECG	14993	1198,75	1060,54	1014,26	3273,56	1532,77	.
GSL CERT	NO PELL GRANT	NO CAMPUS-BASED	61978	.	.	.	0,00	.	3087,16
		NDSL	32672	1253,66	.	.	1253,66	.	3626,97
		CWS	62723	.	1171,94	.	1171,94	.	2551,97
		SEOG	11662	.	.	677,81	677,81	.	2461,28
		NDSL & CWS	28658	1094,19	1428,52	.	2522,71	.	2843,16
		NDSL & SEOG	16806	1418,01	.	1218,49	2636,50	.	2346,32

(CONTINUED)

* These figures are estimated from the sample, not derived from program data.

TABLE E-81
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT 4-YEAR PRIVATE INSTITUTIONS, 1985-86 (Continued)

SAS

TYPE AND CONTROL 4 YR PRIVATE

			NUMBER OF STUDENTS	NDSL AVERAGE	CWS AVERAGE	SEOG AVERAGE	CB AVERAGE	PELL AVERAGE	GSL AVERAGE
GSL CERTIFIC-ATION	PELL GRANT	CBTYPAID							
GSL CERT	NO PELL GRANT	CWS & SEOG	25902	.	1293,30	757,80	2051,10	.	2398,60
		NDSL,CWS, SEOG	26550	957,62	1140,41	956,76	3054,80	.	2426,84
	PELL GRANT	NO CAMPUS-BASED	90297	.	.	.	.	1294,87	2463,43
		NDSL	8430	1198,76	.	.	1198,76	1393,81	2509,10
		CWS	31205	.	1001,24	.	1001,24	1526,36	2307,79
		SEOG	13705	.	.	928,94	928,54	1480,86	2630,67
		NDSL & CWS	19899	1171,25	1198,77	.	2370,02	1493,32	2348,02
		NDSL & SEOG	9012	1147,27	.	969,21	2116,49	1233,28	2500,00
		CWS & SEOG	23807	.	992,33	921,19	1903,52	1309,91	2390,33
		NDSL,CWS, SEOG	40842	1039,30	1216,98	823,72	3080,00	1525,21	2373,88
GSL CERTIFIC-ATION	PELL GRANT								
NO GSL CERT	NO PELL GRANT	MARGINAL	42482	918,95	847,97	757,31	1903,74	.	.
	PELL GRANT	MARGINAL	193166	1130,61	965,00	805,07	1643,08	1471,03	.
GSL CERT	NO PELL GRANT	MARGINAL	820834	1161,51	1239,10	907,54	1809,02	.	2992,01
	PELL GRANT	MARGINAL	245476	1099,69	1111,02	879,19	2011,25	1403,36	2423,09
GSL CERTIFIC-ATION		CBTYPAID							
NO GSL CERT	MARGINAL	NO CAMPUS-BASED	99321	.	.	.	.	1456,51	.

(CONTINUED)

* These figures are estimated from the sample, not derived from program data.

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TABLE E-81
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT 4-YEAR PRIVATE INSTITUTIONS, 1985-86 (Continued)

SAS

TYPE AND CONTROL 4 YR PRIVATE

GSL CERTIFIC-ATION		CBTYPAID	NUMBER OF STUDENTS	NDSL AVERAGE	CWS AVERAGE	SEOG AVERAGE	CB AVERAGE	PELL AVERAGE	GSL AVERAGE
NO GSL CERT	MARGINAL	NDSL	23726	1069,67	.	.	1069,67	1316,29	.
		CWS	23739	.	902,90	.	902,90	1474,56	.
		SEOG	13898	.	.	625,67	625,67	1260,35	.
		NDSL & CWS	17358	1014,21	856,29	.	1870,50	1705,77	.
		NDSL & SEOG	15395	931,81	.	689,05	1620,86	1527,98	.
		CWS & SEOG	10916	.	905,46	797,52	1702,98	1555,55	.
		NDSL,CWS, SEOG	23297	1134,72	983,92	947,27	3065,91	1532,77	.
GSL CERT	MARGINAL	NO CAMPUS-BASED	710077	.	.	.	0,00	1294,07	3004,33
		NDSL	41302	1242,19	.	.	1242,19	1393,81	3392,35
		CWS	94008	.	1115,14	.	1115,14	1526,36	2470,71
		SEOG	25167	.	.	813,26	813,26	1480,86	2957,12
		NDSL & CWS	48557	1125,77	1334,37	.	2460,14	1493,32	2638,94
		NDSL & SEOG	25898	1323,80	.	1131,74	2455,54	1233,28	2399,80
		CWS & SEOG	49709	.	1144,37	836,05	1980,42	1309,91	2398,64
		NDSL,CWS, SEOG	71392	1008,93	1188,50	873,20	3070,63	1925,21	2393,58

GSL CERTIFIC-ATION									
NO GSL CERT	MARGINAL	MARGINAL	239649	1049,96	934,59	789,56	1599,06	1471,03	.
GSL CERT	MARGINAL	MARGINAL	1060310	1134,29	1180,09	892,51	1895,00	1403,36	2861,04

(CONTINUED)

* These figures are estimated from the sample, not derived from program data.

TABLE E-81
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT 4 YEAR PRIVATE INSTITUTIONS, 1985-86 (Continued)

SAS

TYPE AND CONTROL 4 YR PRIVATE

	PELL GRANT	CBTYPAID	NUMBER OF STUDENTS	NDSL AVERAGE	CWS AVERAGE	SEOG AVERAGE	CB AVERAGE	PELL AVERAGE	GSL AVERAGE
MARGINAL	NO PELL GRANT	NO CAMPUS-BASED	615781	.	.	.	0,00	.	3087,16
		NDSL	42362	1185,63	.	.	1185,63	.	3626,97
		CWS	65564	.	1171,66	.	1171,66	.	2591,97
		SEOG	17125	.	.	644,69	644,69	.	2461,28
		NDSL & CWS	35381	1068,76	1296,85	.	2365,61	.	2043,16
		NDSL & SEOG	22568	1227,18	.	1052,71	2279,89	.	2346,32
		CWS & SEOG	29683	.	1232,30	809,94	2042,24	.	2390,60
		NDSL,CWS, SEOG	34853	972,27	1070,17	925,68	2968,12	.	2426,84
	PELL GRANT	NO CAMPUS-BASED	193617	.	.	.	.	1377,79	2463,43
		NDSL	22666	1167,31	.	.	1167,31	1345,81	2508,10
		CWS	52184	.	947,56	.	947,56	1505,61	2307,79
		SEOG	22140	.	.	825,90	825,90	1399,90	2638,67
		NDSL & CWS	30534	1128,41	1106,06	.	2234,47	1567,32	2344,82
		NDSL & SEOG	10726	1117,81	.	863,04	1980,85	1385,94	2900,00
		CWS & SEOG	38942	.	1000,16	837,24	1837,39	1454,29	2390,33
		NDSL,CWS, SEOG	59836	1079,26	1177,78	871,46	3128,50	1527,10	2373,88

	PELL GRANT								
MARGINAL	NO PELL GRANT	MARGINAL	863316	1106,96	1187,93	874,66	1757,56	.	2992,01
	PELL GRANT	MARGINAL	438643	1111,27	1061,41	853,56	1670,24	1433,16	2423,09

(CONTINUED)

* These figures are estimated from the sample, not derived from program data.

TABLE E-81
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT 4-YEAR PRIVATE INSTITUTIONS, 1985-86 (Continued)

BAB

TYPE AND CONTROL 4 YR PRIVATE

			NUMBER OF STUDENTS	NDSL AVERAGE	CWS AVERAGE	SEOG AVERAGE	CB AVERAGE	PELL AVERAGE	GSL AVERAGE
		CBTYPAID							
MARGINAL	MARGINAL	NO CAMPUS-BASED	809398	.	.	.	0.00	1377.79	3004.33
		NDSL	65028	1179.25	.	.	1179.25	1349.01	3392.39
		CWS	117747	.	1072.35	.	1072.35	1509.01	2479.71
		SEOG	39265	.	.	746.07	746.07	1399.90	2557.12
		NDSL & CWS	65915	1096.39	1208.47	.	2304.86	1567.32	2638.94
		NDSL & SEOG	41293	1177.58	.	966.70	2144.28	1305.94	2399.80
		CWS & SEOG	60625	.	1100.57	825.43	1926.00	1454.29	2394.64
		NDSL,CWS, SEOG	94609	1039.88	1138.17	891.42	3069.47	1527.10	2393.50
MARGINAL	MARGINAL	MARGINAL	1301959	1109.09	1121.75	862.32	1013.47	1433.10	2861.04

* These figures are estimated from the sample, not derived from program data.

TABLE E-82
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT PROPRIETARY INSTITUTIONS, 1985-86

SAS

TYPE AND CONTROL PROPRIETARY

			NUMBER OF	NDSL	CWS	SEOG	CB	PELL	GSL
			STUDENTS	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE
GSL CERTIFICATION	PELL GRANT	CBTYPAID							
NO GSL CERT	NO PELL GRANT	SEOG	303	.	.	210,00	210,00	.	.
		NDSL & SEOG	3020	1130,86	.	603,20	1734,06	.	.
	PELL GRANT	NO CAMPUS-BASED	79274	.	.	.	.	1201,33	.
		NDSL	2378	1316,22	.	.	1316,22	1443,36	.
		SEOG	2061	.	.	295,10	295,10	1441,50	.
		NDSL & CWS	1138	1633,00	2242,00	.	3875,00	2100,00	.
		NDSL & SEOG	6431	1607,74	.	1102,65	2710,39	1390,12	.
GSL CERT	NO PELL GRANT	NO CAMPUS-BASED	301573	.	.	.	.	.	2603,23
		NDSL	2288	1788,25	.	.	1788,25	.	2500,00
		SEOG	2068	.	.	755,92	755,92	.	2500,00
		NDSL & SEOG	1792	1224,73	.	609,67	1834,40	.	2500,00
	PELL GRANT	NO CAMPUS-BASED	152032	.	.	.	.	1565,67	2427,69
		NDSL	2415	850,09	.	.	850,09	1706,17	2500,00
		CWS	2342	.	1974,13	.	1974,13	997,78	2500,00
		SEOG	26168	.	.	370,47	370,47	1331,04	2402,88
		NDSL & SEOG	2068	890,29	.	361,42	1251,71	1340,02	2500,00
		CWS & SEOG	6881	.	1890,10	710,73	2600,83	1545,50	2500,00
		NDSL,CWS, SEOG	1134	3000,00	3200,00	2000,00	8200,00	2100,00	2500,00

(CONTINUED)

* These figures are estimated from the sample, not derived from program data.

TABLE E-82
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT PROPRIETARY INSTITUTIONS, 1985-86 (Continued)

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TYPE AND CONTROL PROPRIETARY

			NUMBER OF	NDSL	CWS	SEOG	CB	PELL	GSL
			STUDENTS	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE
GSL CERTIFIC-ATION	PELL GRANT								
NO GSL CERT	NO PELL GRANT	MARGINAL	3323	1130,06	.	567,31	1602,24	.	.
	PELL GRANT	MARGINAL	91201	1540,94	2242,00	967,25	2173,02	1307,04	.
GSL CERT	NO PELL GRANT	MARGINAL	308402	1943,07	.	730,79	1391,69	.	2600,92
	PELL GRANT	MARGINAL	193930	1264,33	2052,53	406,60	1123,41	1930,56	2429,00
GSL CERTIFIC-ATION		CBTYPAID							
NO GSL CERT	MARGINAL	NO CAMPUS-BASED	79274	.	.	.	.	1201,33	.
		NDSL	2378	1316,22	.	.	1316,22	1443,36	.
		SEOG	2364	.	.	284,18	284,18	1441,00	.
		NDSL & CWS	1138	1633,00	2242,00	.	3875,00	2100,00	.
		NDSL & SEOG	9451	1457,90	.	997,40	2455,30	1390,12	.
GSL CERT	MARGINAL	NO CAMPUS-BASED	453605	.	.	.	.	1969,07	2544,33
		NDSL	5203	1263,16	.	.	1263,16	1786,17	2500,00
		CWS	2342	.	1974,13	.	1974,13	997,78	2500,00
		SEOG	29036	.	.	408,55	408,55	1331,04	2412,00
		NDSL & SEOG	3012	1046,19	.	512,31	1558,51	1340,02	2500,00
		CWS & SEOG	6881	.	1890,10	716,73	2606,82	1549,50	2500,00
		NDSL,CWS, SEOG	1134	3000,00	3200,00	2000,00	8200,00	2100,00	2500,00

(CONTINUED)

* These figures are estimated from the sample, not derived from program data.

TABLE E-82
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT PROPRIETARY INSTITUTIONS, 1985-86 (Continued)

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TYPE AND CONTROL PROPRIETARY

			NUMBER OF STUDENTS	NDSL AVERAGE	CWS AVERAGE	SEOG AVERAGE	CB AVERAGE	PELL AVERAGE	GSL AVERAGE
GSL CERTIFICATION									
NO GSL CERT	MARGINAL	MARGINAL	94605	1447,29	2242,00	854,75	2049,24	1307,04	.
GSL CERT	MARGINAL	MARGINAL	502013	1375,74	2052,53	514,29	1161,70	1930,56	2534,99
	PELL GRANT	CBTYPAID							
MARGINAL	NO PELL GRANT	NO CAMPUS-BASED	301573	.	.	.	.	.	2603,23
		NDSL	2280	1788,25	.	.	1788,25	.	2500,00
		SEOG	3172	.	.	703,71	703,71	.	2500,00
		NDSL & SEOG	4773	1170,39	.	634,95	1805,34	.	2500,00
	PELL GRANT	NO CAMPUS-BASED	231306	.	.	.	.	1460,22	2427,49
		NDSL	5292	1059,94	.	.	1059,94	1632,16	2500,00
		CWS	2342	.	1974,13	.	1974,13	997,78	2500,00
		SEOG	28229	.	.	364,97	364,97	1339,11	2402,88
		NDSL & CWS	1138	1633,00	2242,00	.	3875,00	2100,00	.
		NDSL & SEOG	8490	1434,67	.	983,43	2418,10	1378,16	2500,00
		CWS & SEOG	6881	.	1890,10	716,73	2606,82	1549,50	2500,00
		NDSL,CWS, SEOG	1134	3000,00	3200,00	2000,00	8200,00	2100,00	2500,00
	PELL GRANT								
MARGINAL	NO PELL GRANT	MARGINAL	311806	1370,64	.	662,40	1460,05	.	2600,92
	PELL GRANT	MARGINAL	284812	1435,78	2071,29	577,91	1358,95	1458,92	2429,90

(CONTINUED)

* These figures are estimated from the sample, not derived from program data.

TABLE E-82
ESTIMATED JOINT PROGRAM BENEFITS FOR TITLE IV RECIPIENTS AT PROPRIETARY INSTITUTIONS, 1985-86 (Continued)

SAS

TYPE AND CONTROL PROPRIETARY

			NUMBER OF	NDSL	CWS	SEOG	CB	PELL	GSL
			STUDENTS	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE	AVERAGE
		CBTYPAID							
MARGINAL	MARGINAL	NO CAMPUS-BASED	532879	.	.	.	.	1460.22	2544.33
		NDSL	7581	1279.00	.	.	1279.00	1632.16	2500.00
		CWS	2342	.	1974.13	.	1974.13	997.78	2500.00
		SEGG	31400	.	.	399.10	399.10	1339.11	2412.60
		NDSL & CWS	1138	1633.00	2242.00	.	3875.00	2100.00	.
		NDSL & SEGG	13263	1339.57	.	858.03	2197.60	1378.16	2500.00
		CWS & SEGG	6881	.	1890.10	716.73	2606.82	1549.50	2500.00
		NDSL,CWS, SECG	1134	3000.00	3200.00	2000.00	8200.00	2100.00	2500.00
MARGINAL	MARGINAL	MARGINAL	596618	1415.88	2071.29	990.65	1375.18	1458.92	2534.99

* These figures are estimated from the sample, not derived from program data.

TABLE E-83
INELIGIBLE RECIPIENTS IN THE PELL, CAMPUS-BASED, AND GSL PROGRAMS, 1985-86

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                                                    INELIGIBLE PELL RECIPIENTS
VARIABLE   LABEL
                                                         N          MEAN        STANDARD       MINIMUM        MAXIMUM     STD ERROR           SUM
                                                                                DEVIATION       VALUE          VALUE       OF MEAN
PELLDISB   ACTUAL AND PLANNED PELL DISBURSEMENTS    294176   976.0103550    509.7017492   110.0000000    2100.000000  1.00724045
P_FLAG     PELL INELIGIBLES                        2787411     0.1055374      0.3072446     0.0000000       1.000000  0.00018403     285009507
                                                                                                                                    294176


                                                    INELIGIBLE CB RECIPIENTS
VARIABLE   LABEL
                                          N          MEAN       STANDARD        MINIMUM        MAXIMUM      STD ERROR         SUM
                                                                DEVIATION        VALUE          VALUE        OF MEAN
CB_AID_R   CAMPUS-BASED AID AWARDED  112404   1206.294421    975.9417637              1    4700.000000    2.91093843    135592318
C_FLAG     C-B INELIGIBLES          1279310      0.087864      0.2830966              0       1.000000    0.00025029       112404


                                                    INELIGIBLE GSL  RECIPIENTS
VARIABLE   LABEL
                                                         N          MEAN        STANDARD          MINIMUM        MAXIMUM     STD ERROR          SUM
                                                                                DEVIATION          VALUE          VALUE       OF MEAN
GSL_CERT   AMOUNT OF GSL CERTIFIED BY INSTITUTION   199924   2277.060413     1283.470000              0     5000.00000  2.87040960    455239026
G_FLAG     GSL INELIGIBLES                         3174505      0.062976        0.242921              0        1.00000  0.00013634       199924
```

TABLE E-84
BEST INVESTMENT VALUE BY APPLICATION
INVESTMENT VALUE IN THE PELL, CAMPUS-BASED, AND GSL PROGRAMS, 1985-86

```
    INVESTMENT VALUES FOR PELL RECIPIENTS

          TABLE OF INVV BY C_INVV_V

INVV      BEST PELL INVESTMENT VALUE   C_INVV_V  INVESTMENT VALUE

FREQUENCY\
 PERCENT \
 ROW PCT \
 COL PCT \   A     \NONE    \> 0      \  TOTAL
---------+--------+--------+--------+
   .     \   1694 \    3537 \    2210 \       .
         \      . \       . \       . \       .
         \      . \       . \       . \
         \      . \       . \       . \
---------+--------+--------+--------+
NONE     \   5068 \   57774 \       0 \  57774
         \      . \   41.49 \    0.00 \  41.49
         \      . \  100.00 \    0.00 \
         \      . \   86.28 \    0.00 \
---------+--------+--------+--------+
> 0      \      0 \    9185 \   72279 \  81464
         \      . \    6.60 \   51.91 \  58.51
         \      . \   11.28 \   88.72 \
         \      . \   13.72 \  100.00 \
---------+--------+--------+--------+
TOTAL           .     66960     72279   139238
                .     48.09     51.91   100.00
```

TABLE E-84
BEST INVESTMENT VALUE BY APPLICATION
INVESTMENT VALUE IN THE PELL, CAMPUS-BASED, AND GSL PROGRAMS, 1985-86 (CONTINUED)

```
    INVESTMENT VALUES FOR PELL RECIPIENTS

          TABLE OF INVV BY C_INVV_V

INVV      BEST PELL INVESTMENT VALUE   C_INVV_V  INVESTMENT VALUE

FREQUENCY\
 PERCENT \
 ROW PCT \
 COL PCT \   A     \NONE     \> 0      \  TOTAL
---------+--------+--------+--------+
   .     \   1894 \    3537 \   2210 \       .
         \      . \       . \      . \       .
         \      . \       . \      . \
         \      . \       . \      . \
---------+--------+--------+--------+
NONE     \   5068 \   57774 \      0 \   57774
         \      . \   41.49 \   0.00 \   41.49
         \      . \ 100.00 \   0.00 \
         \      . \   86.28 \   0.00 \
---------+--------+--------+--------+
> 0      \      0 \    9185 \  72279 \   81464
         \      . \    6.60 \  51.91 \   58.51
         \      . \   11.28 \  88.72 \
         \      . \   13.72 \ 100.00 \
---------+--------+--------+--------+
TOTAL           .     66960    72279   139238
                .     48.09    51.91   100.00


 INVESTMENT VALUES FOR C-B RECIPIENTS

     TABLE OF INVV_C BY A_INVV_A

INVV_C    BEST CB INVESTMENT VALUE   A_INVV_A  INVESTMENT VALUE - APPL

FREQUENCY\
 PERCENT \
 ROW PCT \
 COL PCT \NONE    \> 0     \  TOTAL
---------+--------+--------+
NONE     \  47394 \      0 \  47394
         \  36.66 \   0.00 \  38.66
         \ 100.00 \   0.00 \
         \  82.54 \   0.00 \
---------+--------+--------+
> 0      \  10026 \  65177 \  75203
         \   8.18 \  53.16 \  61.34
         \  13.33 \  86.67 \
         \  17.46 \ 100.00 \
---------+--------+--------+
TOTAL       57420    65177   122597
            46.84    53.16   100.00
```

TABLE E-85
BEST HOME VALUE BY MULTIPLIER HOME VALUE IN THE PELL AND CAMPUS-BASED PROGRAMS, 1985-86

PELL: REPORTED VS. BEST

	REPBEST	ONE
	MEAN	PCTSUM
REPFLAG		
BEST VALUE HIGHER	-16879.76	37.52
WITHIN $50	0.00	54.69
BEST VALUE LOWER	9244.04	7.79

PELL: BEST VS. MULTIPLIER

	MULTBEST	ONE
	MEAN	PCTSUM
MULTFLAG		
BEST VALUE HIGHER	-17160.99	70.74
WITHIN $50	0.00	2.02
BEST VALUE LOWER	14117.49	27.23

CB: REPORTED VS. BEST

	REPBEST	ONE
	MEAN	PCTSUM
REPFLAG		
BEST VALUE HIGHER	-19963.03	41.67
WITHIN $50	0.00	47.95
BEST VALUE LOWER	25513.74	10.38

CB: BEST VS. MULTIPLIER

	MULTBEST	ONE
	MEAN	PCTSUM
MULTFLAG		
BEST VALUE HIGHER	-23074.59	65.04
WITHIN $50	0.00	1.61
BEST VALUE LOWER	15706.42	33.34

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